

NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

WITH RADIO SERVICE SUPPLEMENT

Vol. 22, No. 7

Official Journal of ASSOCIATION OF ELECTRAGISTS—International

MAY, 1923



This "Red Spot" Hanger has been adopted as standard by many of the most discriminating distributors and installers of commercial lighting equipment. You cannot buy or make a hanger as good for equal money. "Eleven Points of Superiority" tells you the reason why. Send for your copy.

**RED
SPOT**

**RED
SPOT**

SURE-PROFITS

"RED SPOT" Hangers permit you to make fifty cents to a dollar **additional** profit on each unit. You can put them up quickly—no lost time in trying and fitting. They automatically hang level, giving proper distribution of light. "Red Spot" takes any urn-shaped glassware. You can bid low on the job, and still you make the same profit as higher bidders who figure on ordinary hangers. The name—

WAKEFIELD

has always stood for the highest quality. Wakefield "Red Spot" Hangers are manufactured on a production basis and under particularly favorable conditions, which makes their price remarkably low without sacrificing a bit of Wakefield quality.

Data sheets on the "Red Spot" Line are full of information that you should have. Write.

THE F. W. WAKEFIELD BRASS CO.

125 Walnut Street,

Vermilion, Ohio, U.S.A.

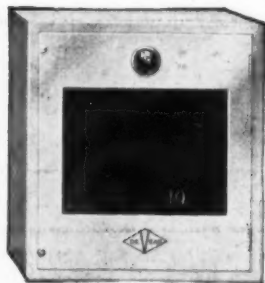
3MT
SARROHOL
9999



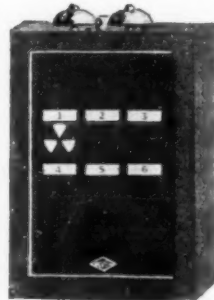
Annunciators



Surface Type
Metal-Black-Gravity-Cat. No. 373
Metal-White-Gravity-Cat. No. 374



Surface Lamp Type
Surface Wood-Lamp
1 1/4-inch Units
Cat. No. 457



Surface Type
Wood-Elec. Reset-Cat. No. 25-R
Metal-Elec. Reset-Cat. No. 25-RM



Surface Type
Wood-Golden Oak-Gravity
Cat. No. 372

When requirements call for a *good* Annunciator at a *low price* you can do no better than to furnish **DEVEAU Gravity Drop Annunciator**.

First class construction throughout and exceptionally well finished—furnished with standard markings numbered from 1 up.

When Electrical Reset Annunciators of the highest class are demanded order **DEVEAU Grade "A."** They are made for heavy duty service and have incurred general favor due to their positive, convenient and silent resetting feature. Very well finished standard markings from 1 up. Special markings on order.

and Push Buttons



DeVeau Circle Push
Removable Weighted Felt-Covered
Base-Desk Type
Cat. No. 4-C



Elevator Push
Cat. No. 112



DeVeau Directory Push
Removable Weighted Felt-Covered
Base-Inclined Desk Type
Cat. No. 2-A



Midget Push
Cat. No. 5-A

The **DEVEAU** Line of Push Buttons covers a wide variation of models and types covering Directory and Circle Type and Locking Directory Push Buttons. Highest grade materials and workmanship — standard markings and finishes.

The **DEVEAU** Bulletin No. 117 makes a most complete reference on Annunciators and Push Buttons — you need it.

A postal card or phone message will bring it. Get in touch with us today.

**Write for DeVeau
Bulletin No. 117**

STANLEY & PATTERSON, INCORPORATED

GENERAL OFFICES AND FACTORY: 250 WEST ST., NEW YORK, U. S. A.

(3 BLOCKS ABOVE FRANKLIN ST.)
Cable Address: "Eleclight," New York

DISTRICT SALES OFFICES:

BOSTON
Chas. R. Corcoran
12 Pearl St.

DETROIT
DeVeau-Bartling Co.
81 Peterboro St.

CHICAGO
Doherty-Hafner Co.
23 W. Monroe St.

LOS ANGELES
Clapp & LaMoree
310 E. 4th St.

SAN ANTONIO
Kemp Haythorne
303 So. Pinto St.

BUFFALO
Chas. K. Wyatt
310 Mutual Life Bldg.

BIRMINGHAM
W. H. Beaven
Jefferson Co. Bk. Bldg.

LOUISVILLE
Electrical Sales Co.
Kenyon Bldg.

SEATTLE
P. L. Hoadley
609 Seaboard Bldg.

PHILADELPHIA
Jas. A. Vaughan
Real Estate Trust Bldg.

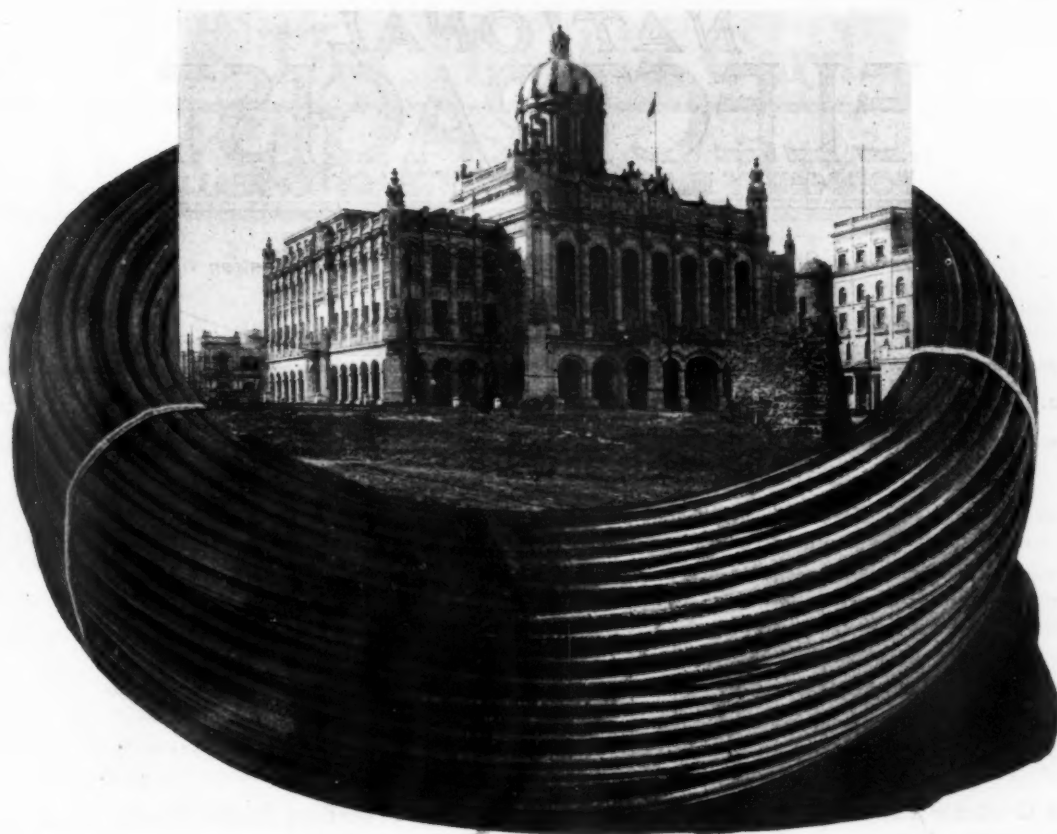
DENVER
The Wesco Co., Inc.
1156 7th Street

HAVANA
Arnesto N. Rodriguez
415 Abreau Bldg.

SAN FRANCISCO
Clapp & LaMoree
171 2nd Street

PITTSBURGH
Parke & Jaques
305 7th Avenue

SALT LAKE CITY
Raymond Ackerman
Dooley Bldg.



"Give Us the Best"—cried Cuba

Complete stocks carried in
the following cities:

Atlanta	New York
Baltimore	Omaha
Buffalo	Philadelphia
Boston	Pittsburgh
Chicago	Salt Lake City
Denver	San Francisco
Detroit	Seattle
Minneapolis	St. Louis
New Orleans	Syracuse

And the Presidential Palace at Havana, one of the most beautiful buildings in the world, was the result.

Because the spirit that demanded the best in architecture insisted upon the same high standards in materials, "U. S." PARACORE Wires and Cables were used throughout.

The fact that "U. S." PARACORE Wires and Cables have been specified for many of the finest buildings in the world is a significant tribute to their outstanding quality.



TRADE MARK

United States Rubber Company

1790 Broadway, New York

L 537.051
E 32

585248

NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

(Trade Mark)

The Official Journal Published Monthly by the Association of
Electragists—International

FARQUSON JOHNSON
Editor and General Manager

Radio Service Supplement Last Section

JAY S. TUTHILL
News Editor

Vol. 22, No. 7

MAY, 1923

Number 7

TO OUR READERS

All matter for publication must be in the hands of the Editor by the 10th of the month preceding publication.

All changes in our mailing list should be received by us two weeks prior to date of publication of the issue with which the change is to take effect.

TO OUR ADVERTISERS

Changes in advertisements and all advertising copy should reach our office not later than the TENTH OF THE MONTH previous to the date of issue.

Table of Contents and Advertising Index Next to Last Page Preceding Radio Service Supplement

SUBSCRIPTION RATES

One Year, Domestic.....\$2.00
Foreign Subscriptions, including Canada, per year.....\$2.50
Single Copies.....20 cents

Copyright, 1922, by Association of Electragists—International.

Entered as second-class matter September 1, 1919, at the Post Office at Utica, New York, under the act of March 3, 1879.

PUBLICATION OFFICE:

100 Liberty Street, Utica, N. Y.

Editorial and Business Office:

15 West 37th Street, New York City



THE "SAFETY" TOOLS.—ASSORTMENT "B"

"RIMCO" Rubber Insulated Pliers and Screw Drivers are designed especially for electrical workers and are 100% SAFE. Every tool is subjected to 10,000 Volts Test and Passed by the Electrical Testing Laboratories, N. Y. City. The insulation is a semi-soft rubber compound and is BONDED to the metal by the "RIMCO" patented method and therefore cannot work loose—cannot come off—cannot crack or break. Finest Tool Steel.

THEY SELL THEMSELVES

Assortment "B," as illustrated, compels attention and makes for quick sales. Eight additional tools go with it, and the entire outfit will cost you only \$27.60.

Send Today for illustrated circular showing this Board printed in colors as it actually appears and judge for yourself.

Then order through your Jobber,—or send us his name.

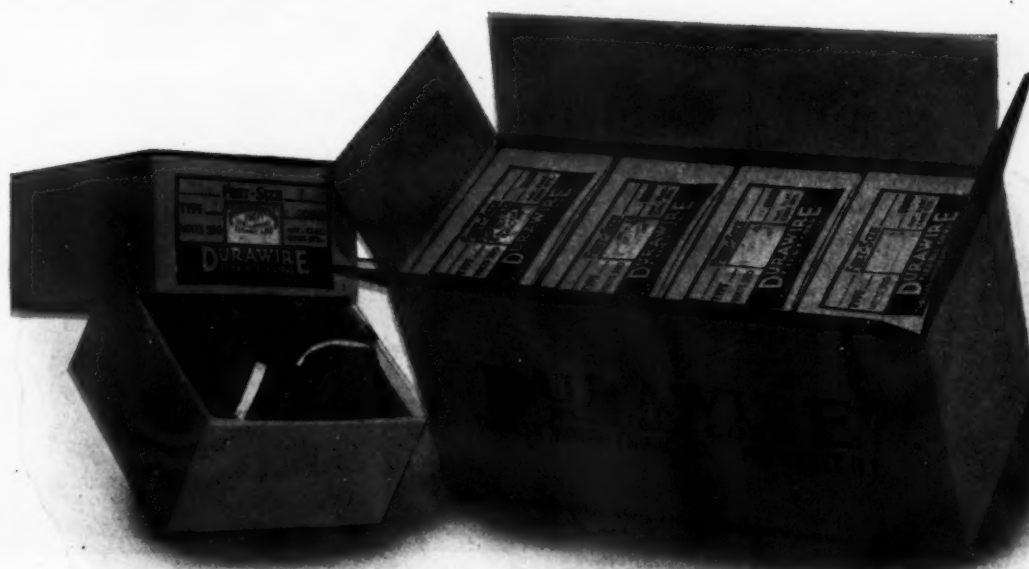
MANUFACTURED SOLELY BY THE

RUBBER INSULATED METAL CORPORATION, 18 Oliver Street, Newark, N. J.



**A Display
with
A
Sales Punch!**
—the kind that means
business and
substantial profits

Ask For The Flexible Cord In The Orange Colored Box



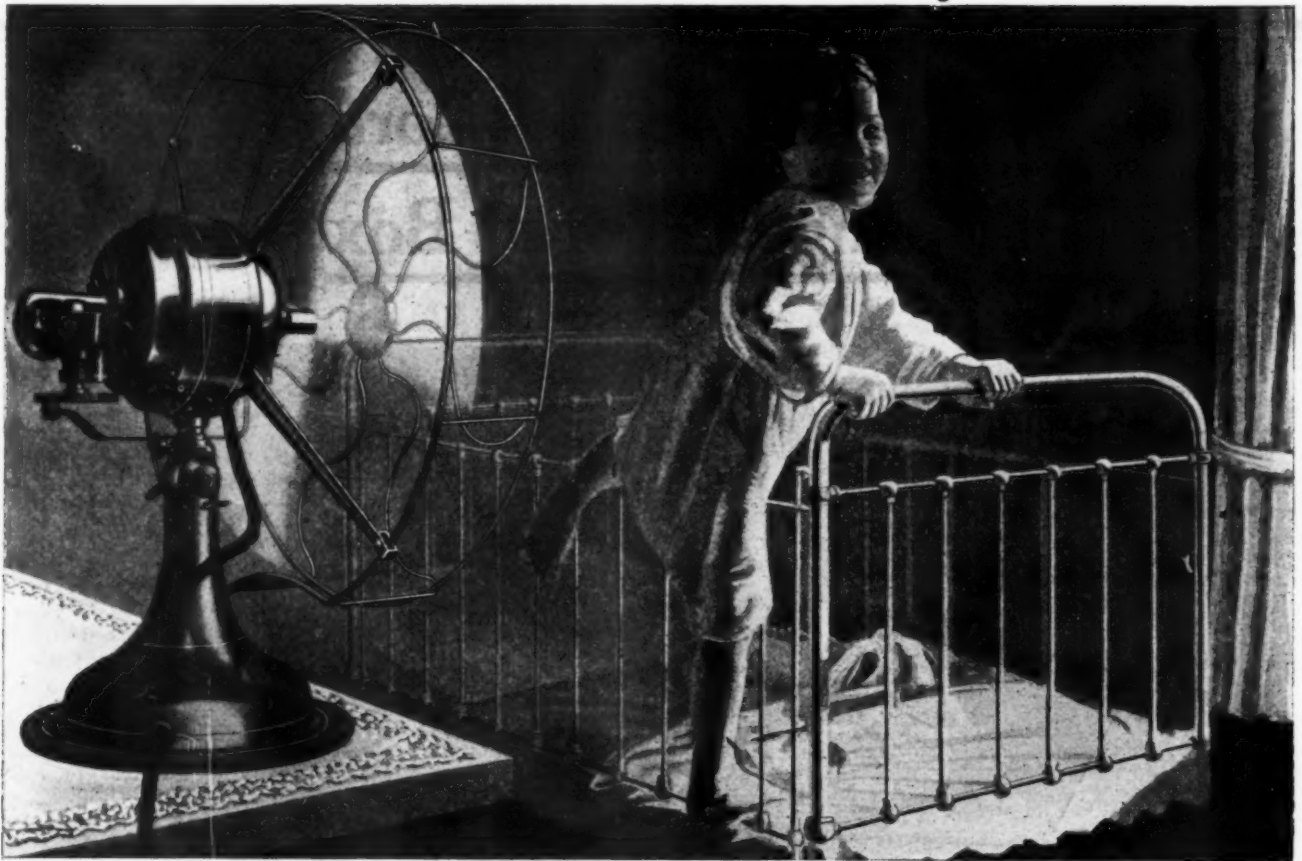
Then you may be sure of getting DURAWIRE, a clean, dependable, durable cord.

DURAWIRE in types C, PS, PO and PD is put up with a 250 ft. coil to a box and four boxes to a carton. It is, therefore, easy to handle, ideal to stock and ship, and is kept free from dirt and grime.

In addition, DURAWIRE Flexible Cord is a quality product, fully in keeping with the other well known members of the DURABILT family, DURADUCT non-metallic conduit, DURACORD portable cord for heavy duty, and DURAFLEX armored conductor.

DURAWIRE rubber covered wire, too, is as good as any and better than most.

Tubular Woven Fabric Company
Pawtucket, R. I.



A FEATURE much desired in fans for home service is quiet operation. Nights of restful slumber are assured where an R & M fan almost silently removes all remembrance of the day's heat. This feature is an important characteristic also in fans intended for theatre, office, hospital and hotel service and it is a decided sales help to dealers handling R & M fans.

Quiet, vibrationless operation in any machine is indicative of long life and trouble-free service. Customers can expect such things when they purchase R & M fans and by the realization of such expectations, dealers are assured of satisfied customers who will build their business.

If you have not received fan catalogue 1203 detailing the line for 1923, write for it today. Plan now to get in on this profitable summer business. Our national advertising coupled with our dealers helps will be of untold assistance.

THE ROBBINS & MYERS COMPANY

SPRINGFIELD, OHIO

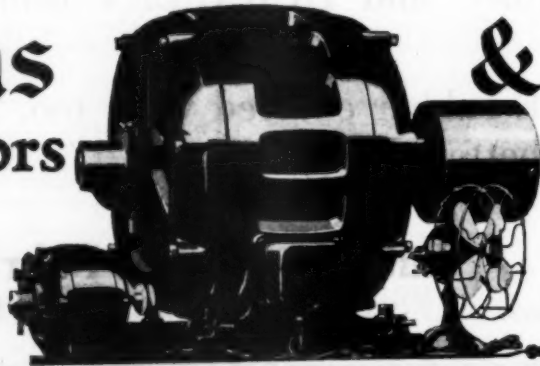
NEW YORK, 39 Church St.
CHICAGO, 1444 Conway Bldg.
PHILADELPHIA, 1418 Walnut St.

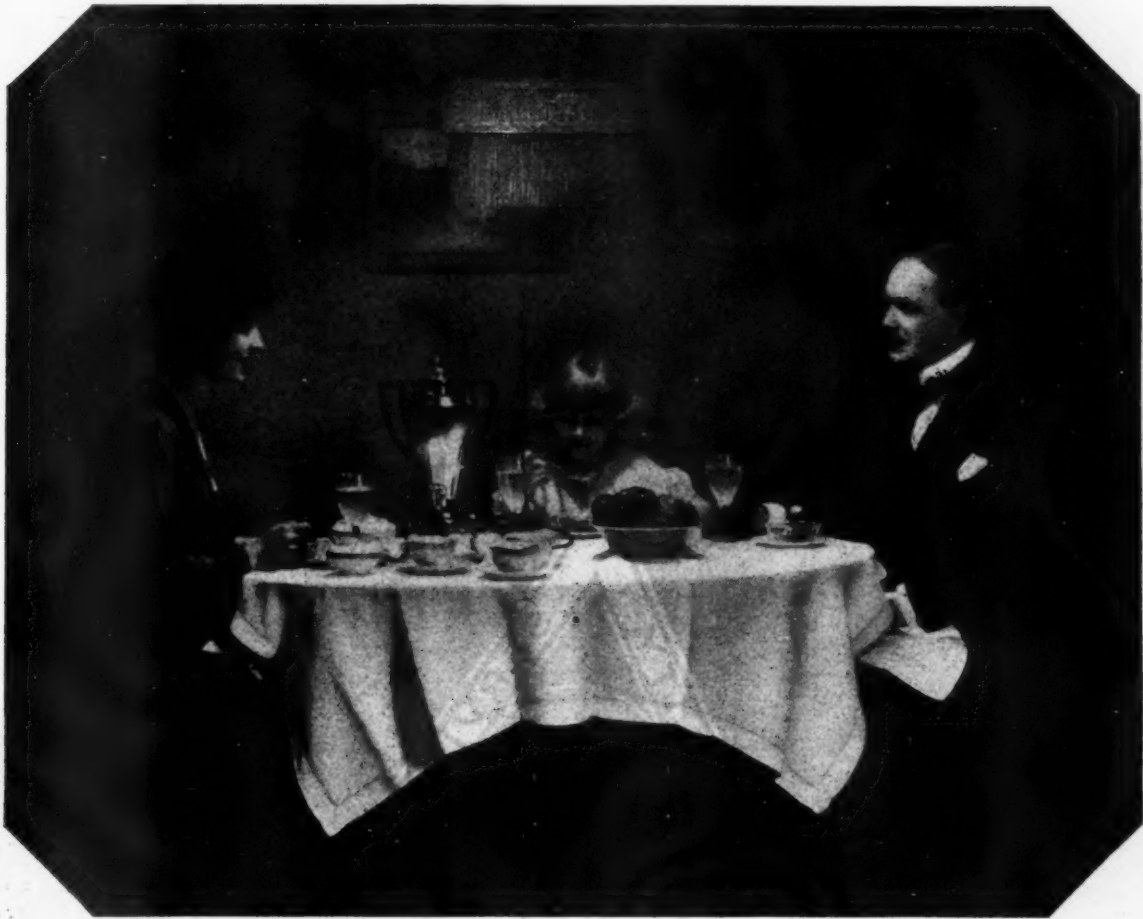
BRANCH OFFICES:
CLEVELAND, 1239 W. Third St.
ST. LOUIS, 1522 Chemical Bldg.
SAN FRANCISCO, 701 Rialto Bldg.

BRANTFORD, ONTARIO

CINCINNATI, 9 E. Third St.
BUFFALO, 827 Ellicott Square Bldg.
BOSTON, 74 Pearl St.

Robbins & Myers
Motors and Fans





Price is soon forgotten

Price is soon forgotten. You then think about the product itself; its utility, its performance, its resistance to wear and tear.

With only its low price to recommend it the inferior wiring device is apt to cause trouble and lose a customer for you.

But the device that makes good, regardless of its cost, builds good will and increased business.

The initial sale is not the end. It is the beginning of the cycle that should bring your customer and his friends into your store again and again.

Bryant Superior Wiring Devices are the logical initial sale. They start the cycle right.



NO. A.V. 33
BRYANT
Spar-Tap
2 Way Socket
Price \$1.00



NO. 651
BRYANT
Appliance
Switch-Plug
Price \$1.00



"A Dependable Wiring Device for every Electrical Need"

THE BRYANT ELECTRIC COMPANY
BRIDGEPORT, CONNECTICUT

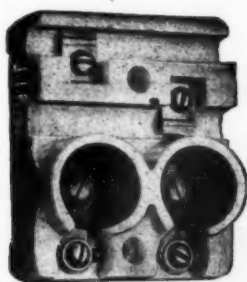
NEW YORK
342 Madison Ave.

CHICAGO
844 West Adams St.

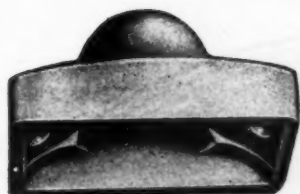
SAN FRANCISCO
149 New Montgomery St.



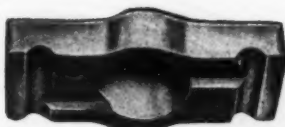
**This Catalog has
just been print-
ed—for you.
Send us your ad-
dress and we'll
send you your
copy.**



1985



2755



2694



1500



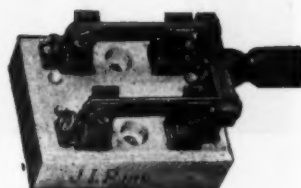
50715



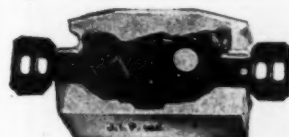
1972



2757



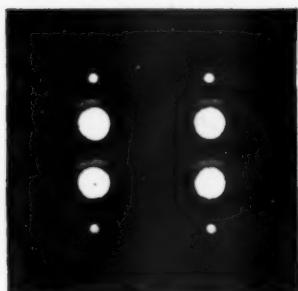
1152



972



973-O



6973



4204



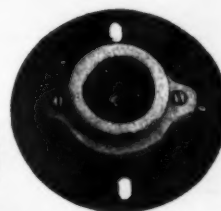
1444



9806



48310



4111

A FEW items from
our new Catalog.
Write for a copy; it
illustrates many new
devices that are being
specified for better
grade installations.

The QUALITY of our material and
our better SERVICE both made possi-
ble by the highly efficient mechanics
in our factory will ultimately lead to
complete SATISFACTION not only
for you but for your trade.

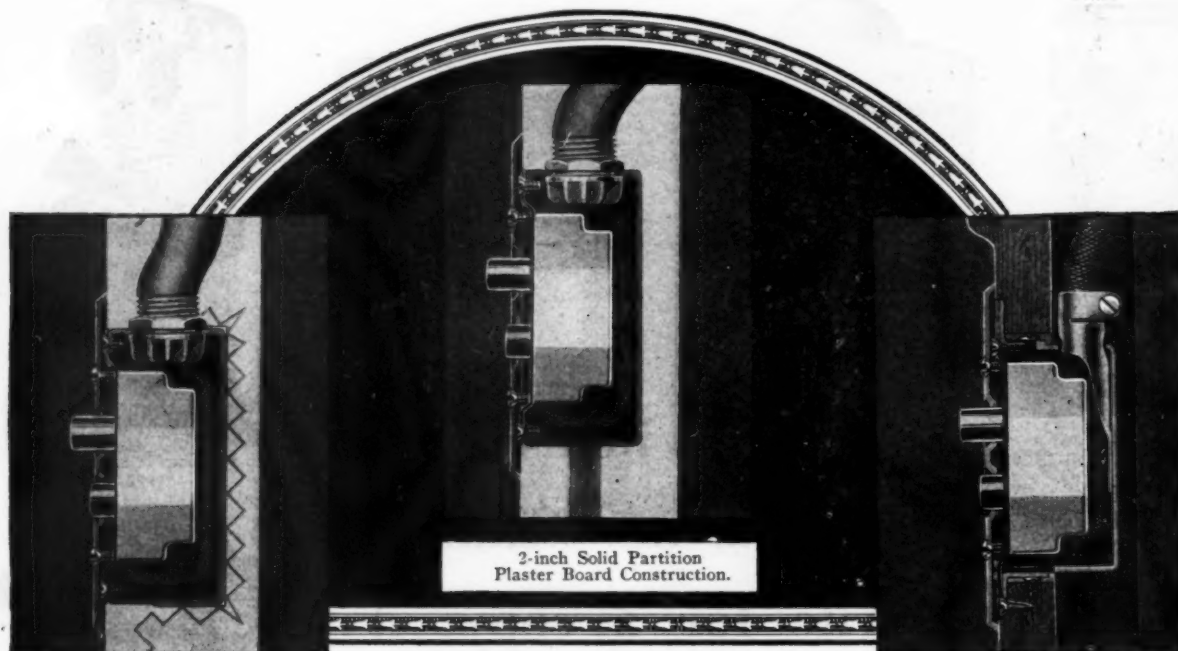
This Trade Mark is the
Badge of Quality, the
Symbol of Service and
the Pledge of Satisfac-
tion.

MANUFACTURED BY

JOHN I. PAULDING, Inc.

New Bedford, Mass.

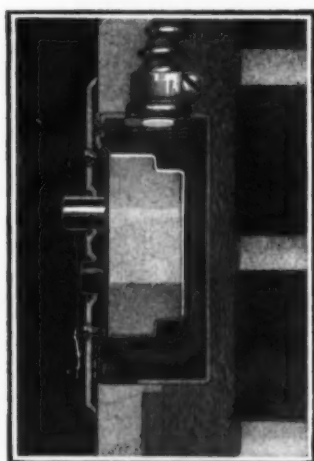




2-inch Solid Partition,
Metal Lath Construction

2-inch Solid Partition
Plaster Board Construction.

Panel Covered Column



Furred Brick Construction

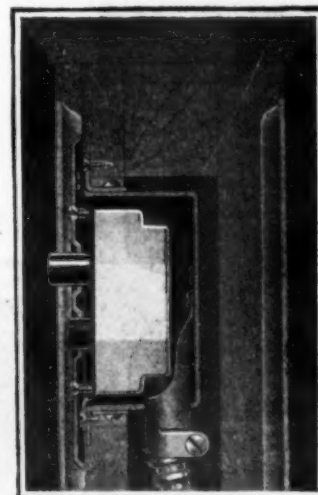
Have you been up against *problems* *such as these?*

THE Arrow "Shallow Line" of Electrical Devices settles once and for all the wiring problems in 2-inch solid partitions and other installations in limited space.

The Arrow Manual of "Electric Wiring Devices For Use In Limited Space" fully describes and outlines the Arrow one-inch Wiring Devices and their use. It is just from the press, and we will be glad to send you a copy, on request, if you have not already received one.

THE ARROW ELECTRIC CO.
Hartford, Conn.

THERE is a complete line of not only Arrow Push Button Switches, but also of Tumbler Switches, single and duplex; Convenience Outlets, for plugging in connections, and "Elexits" for fixtures.



Office Partition



Mail this for the Manual

THE ARROW ELECTRIC CO.,
Hartford, Conn.

Kindly send me the new Shallow
Device Hand Book.

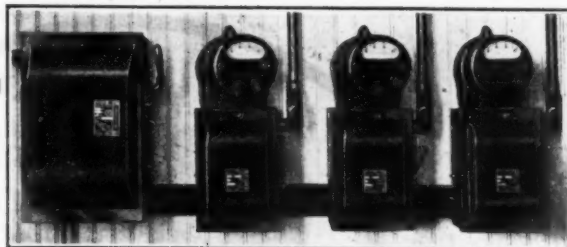
Name.....

Firm.....

Address.....

ARROW
The complete line of Wiring Devices

9,000,000 Homes are now wired 1,170,000 More will be wired during 1923



Three gang meter installation with main service entrance switch.

IN every house, that is wired, *old and new* can be placed an externally operated entrance switch. That means millions of dollars for YOU—CONTRACTORS and DEALERS! Our line of entrance and also standardized meter service switches covers *every possible requirement*. The man who is not familiar with latest developments in entrance switch construction is missing a *one big bet*.

"Circle T" Standardized Meter Service Switches serve as 100% protection to the consumer of electric current—he can't get at the "works" and tamper with something he knows nothing about.

This line of Standardized Meter Service Switches is admirably adapted to single customer service or for installation in apartment houses where they may be banked or "ganged" as the requirement demands.

They are equipped with testing clips.

They provide:

- protection against accidental personal contact;
- protection against fire hazard;
- a service cutout;
- a service switch;
- a meter testing device;
- and a "lockout" when service is suspended.

Approved and specified by many Light and Public Service Corporations.

Bulletin 51W and 4W lists these lines. Our circle T complete line is carried in stock by all Trumbull distributors.

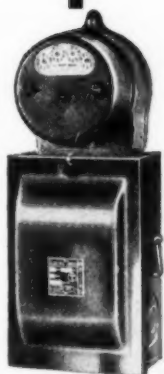
The Trumbull Electric Mfg. Co.

PLAINVILLE, CONN.

NEW YORK
114 Liberty St.

CHICAGO
40 S. Clinton St.

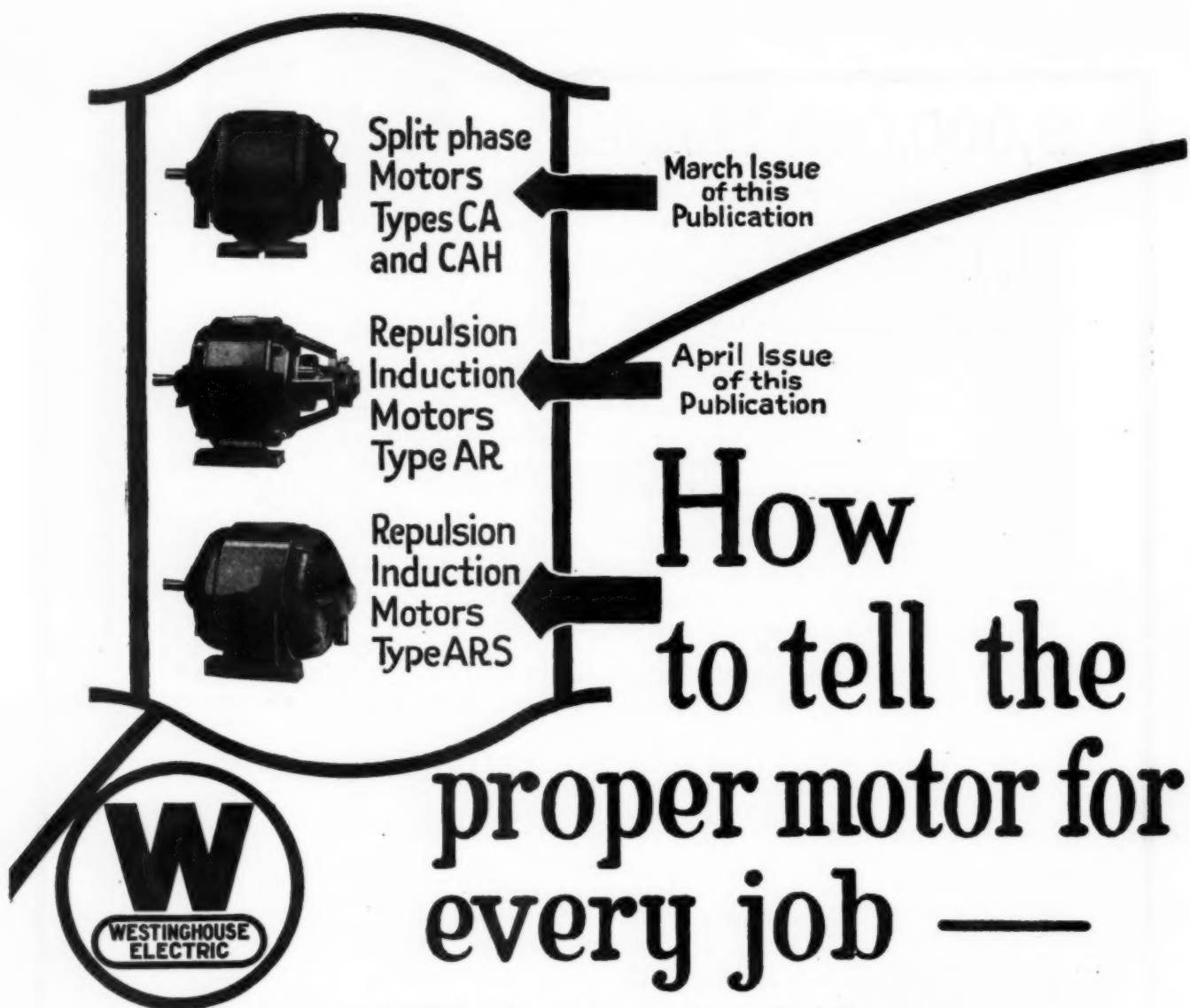
SAN FRANCISCO
595 Mission St.



Standardized
Meter service
switch and
meter.

"Circle T" is Guaranteed





Split phase
Motors
Types CA
and CAH

Repulsion
Induction
Motors
Type AR

Repulsion
Induction
Motors
Type ARS

March Issue
of this
Publication

April Issue
of this
Publication

How to tell the proper motor for every job —

W
WESTINGHOUSE
ELECTRIC

For some time the Westinghouse Company has realized the need for more information on the above subject which will help the dealer to analyze every motor job, and to select the proper motor and controller for any particular application.

We have, therefore, decided to use our advertising pages in this magazine to explain what various kinds of motors are in common use, how each kind operates and what they are best adapted for.

On the opposite page the repulsion-induction motor (Type ARS) is discussed. The first of this series of advertisements appeared in the March issue of this publication and explained in detail the split-phase motors, types CA and CAH. The April issue discussed the repulsion-induction motors, type AR.

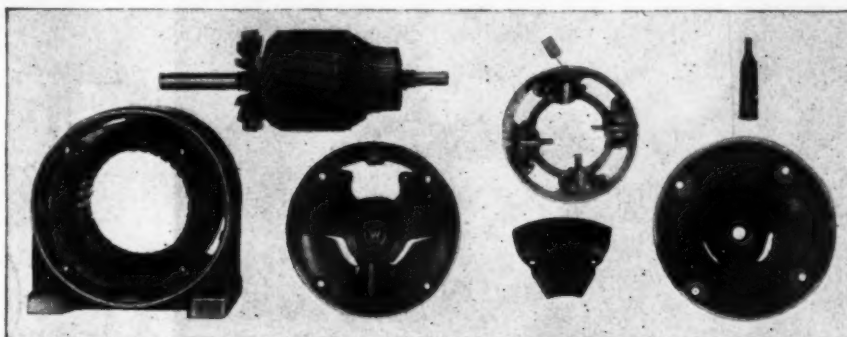
Keep these advertisements handy for future reference.

Westinghouse Electric & Manufacturing Company
EAST PITTSBURGH, PA.

Westinghouse

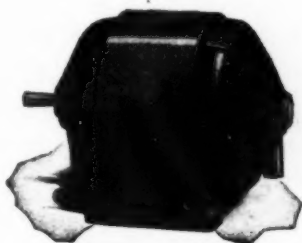
Single Phase Alternating Current Motors REPULSION-INDUCTION Type ARS

Last month we explained that the urgent demand for a low starting current motor resulted in the development of the repulsion-induction motor, type AR. When once motors of this type were made to give the desirable electrical characteristics (low starting current and high starting torque) the next problem was to simplify the mechanical construction of these motors through the elimination of complicated starting and regulating devices; i. e., the mechanism for short circuiting the commutator and lifting the brushes. To meet this second and more exacting demand, Westinghouse engineers designed the type ARS motor which employs a new principle in motor design.



Exploded View of Type ARS Motor

In the type ARS motors, there are no automatic devices whatever. All parts in the ARS motor perform the same function when running as they do during the starting period. The type ARS motor is, therefore, a low starting current high starting torque motor reduced to great simplicity in its mechanical construction, and one applicable to all classes of service requiring a strong turning effort.



Type ARS Motor

Sizes: $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 hp.

For driving machinery requiring a motor below $\frac{1}{2}$ hp., where either the split phase type CAH, or the repulsion-induction type ARS motors is available, use type CAH for the general run of motor applications, such as washing machines, ironing machines and the like—but for applications like pumps, compressors and other machinery requiring a stronger turning effort, use the type ARS.

Where a motor of $\frac{1}{2}$ to 1 hp. is required, one has the choice of the type ARS or the type AR motor. Each is a low starting current motor having a heavy starting torque. Of the two, the type AR has the heavier starting torque. The type ARS, however, is much more simplified in its mechanical construction, and therefore, represents a more reliable motor. Of almost equal importance, the type ARS motor will vary slightly in speed as the load increases, whereas, the type AR motor (like the splitphase motor, type CAH), tends to run at constant speed regardless of load changes. The type ARS motor, therefore, is less likely to draw excessive current from the line.

In cases where a single phase motor larger than 1 hp. is required, the type AR motor is the only Westinghouse single phase motor made in sizes up to 10 hp.

Westinghouse



It's Either On or Off

Powerful quick make—quick break mechanism features the newest safety switch

Our fourteen years' history does not record an achievement that parallels the development of the new Square D switch illustrated here. It is the finest and most popular switch we have ever offered. Undoubtedly the *safest* safety switch ever designed, its superiority from the *service* standpoint is equally marked.

One of its notable features of design lies in the force and simplicity of its quick make—quick break mechanism. This mechanism is completely enclosed within the switch box—where it is securely protected from dirt and dust. As a result, it cannot become clogged; nor can its action be retarded. It snaps the blades solidly home, or disengages them with

equal sharpness. Positive contact is assured. Arcing is minimized. The new Square D is either completely on—or completely off.

The new Square D switch is being successfully used for all industrial purposes—in mills, shops, foundries, and general business buildings. In residential construction it is equally popular.

The good interest of your business justifies your acting at once to learn all the reasons why the Square D is the supremely logical switch for you to stock and install. A Square D representative will call at a word from you. Write today!

This shield distinguishes the Square D switch from its imitations. Look for it before you buy.



SQUARE D COMPANY, DETROIT, U. S. A. FACTORIES AT: DETROIT, MICH., PERU, IND., WALKERVILLE, ONT.

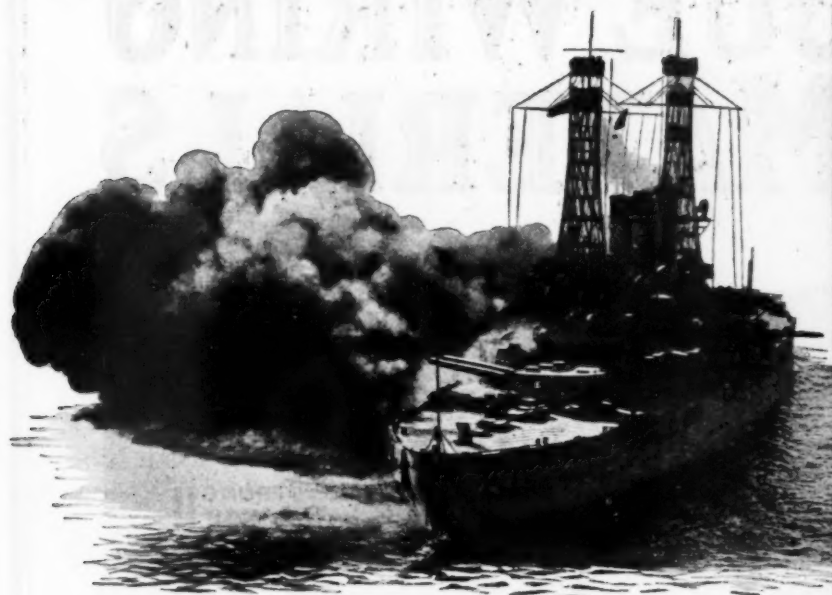
BRANCH OFFICES: Boston, Buffalo, Chicago, New York, Pittsburgh, St. Louis, Toronto, Philadelphia, Cincinnati, Milwaukee, Montreal, Atlanta, Cleveland, San Francisco, Winnipeg, Vancouver

(41)

Electrify!

SQUARE D Safety Switch

Ebony Asbestos Wood



Where switchboards must stand physical shock!

THE shock of broadside firing literally causes a battleship to jump sidewise—a racking strain on its equipment.

Ordinary switchboard materials might crack under this strain—Ebony Asbestos Wood has the strength to stand it. For this reason, Ebony Asbestos Wood is largely used for modern battleship switchboards.

This strength might be unimportant if it meant a sacrifice in reliability. Fortunately, Ebony Asbestos Wood is not only stronger than ordinary switchboard materials, but has better electrical characteristics, and is lighter, free from flaws, better looking, and more easily worked.

In every phase of electrical work, Ebony Asbestos Wood is giving a far greater protection to the apparatus it mounts.

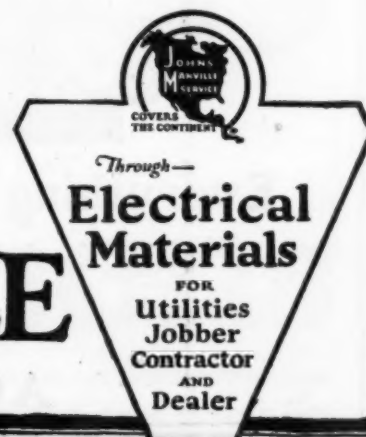
JOHNS-MANVILLE Inc., Madison Ave. at 41st St., New York City
Branches in 56 Large Cities

For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

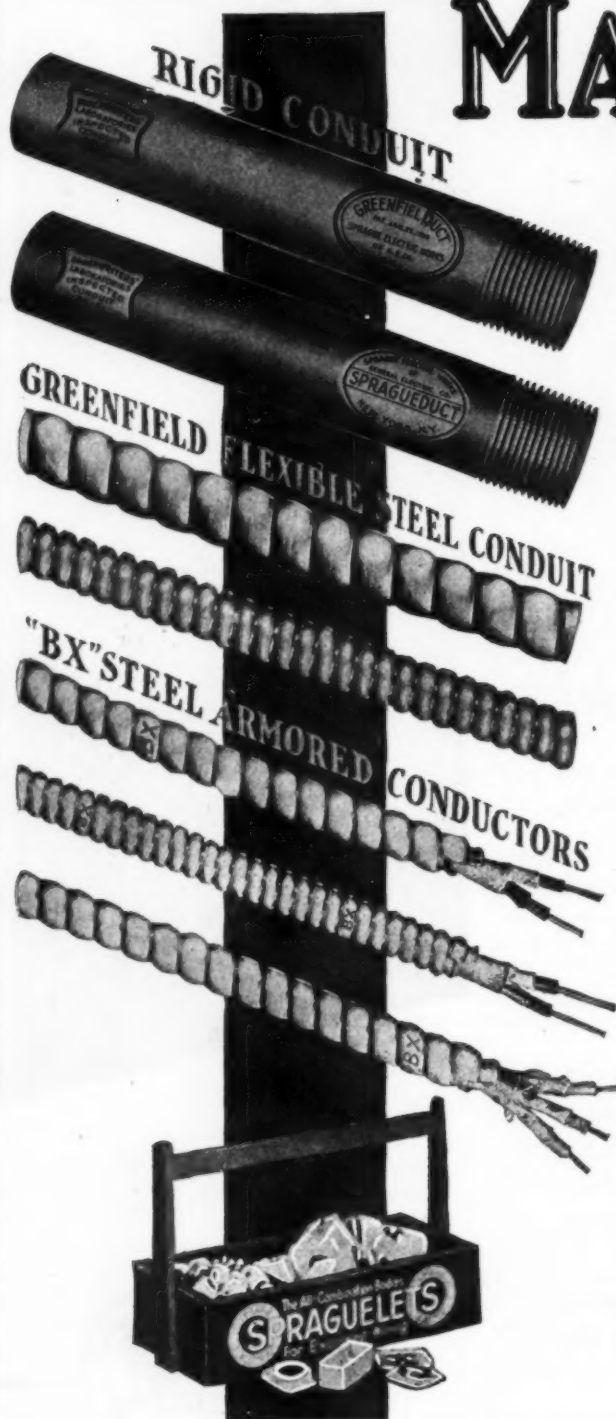
JOHNS-MANVILLE



On battleships, in central stations, and wherever switchboard failure would entail heavy losses, Ebony Asbestos Wood is the preferred mounting material.



SPRAGUE WIRING MATERIALS



Hot Galvanized ^{RIGID} CONDUIT

Black Enameled ^{RIGID} CONDUIT

|| THREADS ARE STRONG ||
|| CLEAN CUT AND TRUE ||

Double Strip
Single Strip

"BX" Twin Conductors

"BX" Single Strip

"BX" Three Wire

Everything for the complete wiring system

Branch Offices

ATLANTA
BALTIMORE
BOSTON
CHICAGO
CINCINNATI
CLEVELAND
KANSAS CITY
MILWAUKEE
PHILADELPHIA
PITTSBURGH
ST. LOUIS



SPRAGUE ELECTRIC WORKS
Of General Electric Company
Main Offices
227 W 34th St. New York

PIONEERS OF THE INDUSTRY



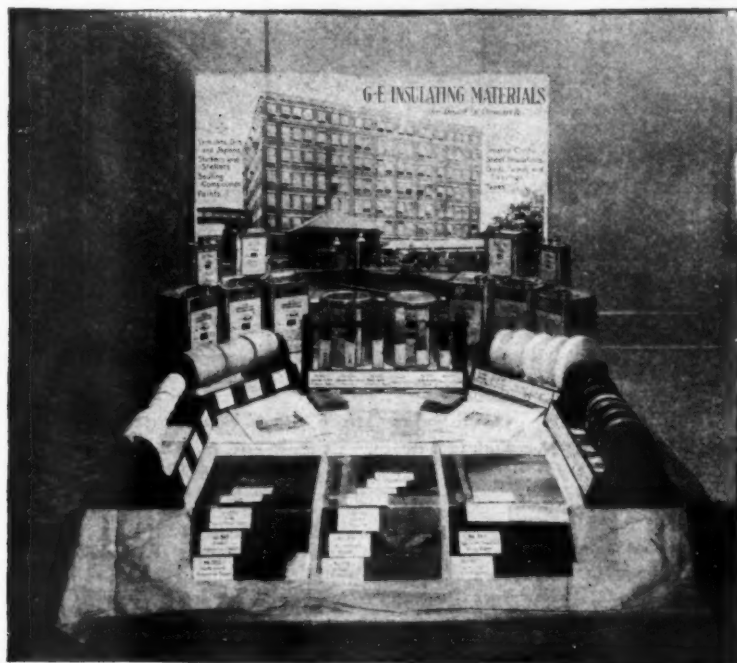
Branch Offices
in Principal Cities

Pacific Coast
Representatives

LOS ANGELES
PORTLAND ORE
SAN FRANCISCO
SEATTLE
SPOKANE

A GENERAL ELECTRIC PRODUCT

"Original Equipment Quality"



G-E Flexible Varnished
Tubing Knots without
cracking.

Electrical Insulation for Every Need

A necessary foundation for uninterrupted operation of electrical machinery is good insulation. Realizing this, the General Electric Company has developed for use in its own apparatus insulating materials of the highest possible quality and dependability. These results of most careful research and skilled manufacture are offered to other makers of electrical products and to repair men whose reputation demands the highest grade materials.

Apparatus built or repaired with G-E insulating materials has always maintained an enviable service record.

Ask any G-E distributor for further information

G-E Insulation Materials

Insulating Varnishes and
Oils
Stickers and Shellacs
Sealing and Filling Com-
pounds
Paints for Electrical
Apparatus
Treated Cloths
Treated Fibers and Papers
Cords, Twines and Insu-
lating Tapes
Flexible
Varnished
Tubing



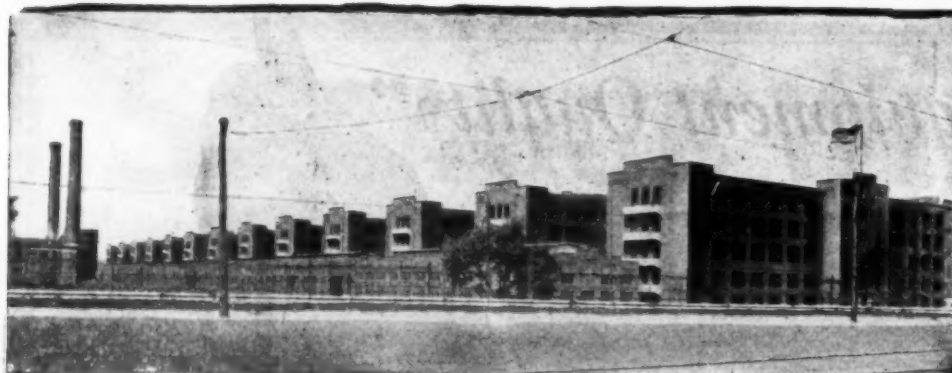
General Electric Company
Merchandise Dept., Bridgeport, Conn.



Insulations

48G-2

Use them when you build - demand them for repairs



Bridgeport Works
General Electric Company

Where to Get G-E Service

For Business in the United States

G-E Sales Office	G-E Distributing Jobber
Alabama, Birmingham.....	Matthews Elec. Supply Co.
Arizona, Phoenix.....	Southwest G-E Co.
Arkansas, Little Rock.....	
California, Los Angeles.....	Pacific States Electric Co.
California, Oakland.....	Pacific States Electric Co.
California, San Francisco.....	Pacific States Electric Co.
Colorado, Denver.....	The Hendrie & Bolthoff Mfg. Sup. Co.
Connecticut, Hartford.....	
Connecticut, New Haven.....	
Connecticut, Waterbury.....	Southern New England Elec. Co.
District of Columbia, Washington.....	National Elec'l Supply Co.
Florida, Jacksonville.....	Florida Elec. Supply Co.
Florida, Tampa.....	Florida Elec. Supply Co.
Georgia, Atlanta.....	Carter Electric Supply Co.
Georgia, Savannah.....	Carter Electric Supply Co.
Illinois, Chicago.....	Central Electric Company Commonwealth Edison Co.
Indiana, Evansville.....	Crescent City Electric Co.
Indiana, Fort Wayne.....	
Indiana, Indianapolis.....	Indianapolis Elec. Supply Co.
Indiana, South Bend.....	South Bend Electric Co.
Indiana, Terre Haute.....	
Iowa, Des Moines.....	Mid-West Electric Co.
Kentucky, Louisville.....	Belknap Hardware & Mfg Co., Inc.
Louisiana, New Orleans.....	Gulf States Electric Co., Inc.
Maryland, Baltimore.....	Southern Electric Co.
Massachusetts, Boston.....	Pettingell-Andrews Co.
Massachusetts, Springfield.....	
Massachusetts, Worcester.....	
Michigan, Detroit.....	Frank C. Teal Company A. T. Knowlson Co.
Michigan, Grand Rapids.....	
Michigan, Jackson.....	
Minnesota, Duluth.....	Northwestern Elec. Equipment Co.
Minnesota, Minneapolis.....	Pearless Electrical Co.
Minnesota, St. Paul.....	Northwestern Elec. Equipment Co.
Missouri, Joplin.....	
Missouri, Kansas City.....	The B-R Electric Co.
Missouri, St. Louis.....	Wesco Supply Company
Montana, Butte.....	Butte Electric Supply Co.
Nebraska, Omaha.....	Mid-West Electric Co.
New Jersey, Harrison.....	
New Jersey, Newark.....	Tri-City Electric Co., Inc.
New Jersey, Trenton.....	
New York, Albany.....	Havens Electric Co., Inc.
New York, Buffalo.....	Robertson-Cataract Elec. Co.
New York, Elmira.....	

Distributors for the General Electric Company Outside of the United States
INTERNATIONAL GENERAL ELECTRIC COMPANY, INC.
120 Broadway, New York, N. Y.

List of G-E Factories	
Connecticut	Bridgeport Windsor
Indiana	Ft. Wayne Decatur
Maryland	Baltimore
Massachusetts	East Boston Everett Gloucester Hudson Lynn Pittsfield Taunton West Lynn
Missouri	St. Louis
New Jersey	Ampere Belleville Harrison Bloomfield Roselle Park Newark
New York	Little Ferry Schenectady Maspeth, L. I. Rochester Chio
Cleveland	Sandusky
Pennsylvania	Erie York New Kensington Philadelphia Scranton Rhode Island Providence

G-E Sales Office	G-E Distributing Jobber
New York City.....	E. B. Latham & Company Royal Eastern Elec'l Sup. Co. (Also Borough of Brooklyn, Long Island City and Jamaica, L. I.) Sibley-Pitman Elec. Corp. (Also Borough of Brooklyn)
New York, Niagara Falls.....	
New York, Rochester.....	Wheeler-Greene Elec'l Sup. Co.
New York, Schenectady.....	
New York, Syracuse.....	Mohawk Elec'l Sup. Co.
North Carolina, Charlotte.....	Elec. Supply & Equipment Co.
Ohio, Akron.....	Republic Electric Co.
Ohio, Canton.....	
Ohio, Cincinnati.....	The F. D. Lawrence Elec. Co.
Ohio, Cleveland.....	Republic Electric Co.
Ohio, Columbus.....	The Erner & Hopkins Co.
Ohio, Dayton.....	The Wm. Hall Electric Co.
Ohio, Toledo.....	W. G. Nagel Electric Co.
Ohio, Youngstown.....	
Oklahoma, Oklahoma City.....	Southwest G-E Co.
Oklahoma, Tulsa.....	Southwest G-E Co.
Oregon, Portland.....	Pacific States Electric Co.
Pennsylvania, Erie.....	
Pennsylvania, Philadelphia.....	Philadelphia Electric Company Supply Department Frank H. Stewart Electric Co. Union Electric Company
Pennsylvania, Pittsburgh.....	
Rhode Island, Providence.....	
South Carolina, Columbia.....	Perry-Mann Elec., Co. Inc.
Tennessee, Chattanooga.....	James Supply Company
Tennessee, Knoxville.....	
Tennessee, Memphis.....	Electric Supply Company
Tennessee, Nashville.....	
Texas, Dallas.....	Southwest G-E Co.
Texas, El Paso.....	Southwest G-E Co.
Texas, Houston.....	Southwest G-E Co.
Texas, San Antonio.....	Southwest G-E Co.
Utah, Salt Lake City.....	Capital Electric Company
Virginia, Richmond.....	Southern Electric Company
Washington, Seattle.....	Pacific States Electric Co.
Washington, Spokane.....	Pacific States Electric Co.
Washington, Tacoma.....	
West Virginia, Bluefield.....	
West Virginia, Charleston.....	Virginian Electric, Inc.
Wisconsin, Milwaukee.....	
For Hawaiian business:	Catton, Neill & Co., Ltd., Honolulu
For Canadian business:	Canadian General Electric Company, Ltd., Toronto,

Canada

†No G-E Office

†Warehouse

†Service Shop

General Electric Company
General Office
Schenectady, N.Y.
Sales Offices in
all large cities

95-602

NATIONAL ELECTRAGIST

FORMERLY ELECTRICAL CONTRACTOR-DEALER

FARQUHSON JOHNSON
Editor and General Manager

(Trade Mark)
Official Journal of the
Association of Electragists—International

JAY S. TUTHILL
News Editor

Publication Office: 100 Liberty St., Utica, N. Y.

Editorial and Business Offices: 15 West 37th St., New York City

Volume 22

MAY, 1923

Number 7

Commissioner Eidlitz

In the February issue of this magazine there appeared an editorial to which it is said that some readers took exceptions. Perhaps it was unfortunate that the editor was not directly apprised of the fact that the editorial in question did not have the whole hearted support of the entire industry. In such circumstances the controversy which might have resulted possibly would have brought to light some evidence that since has developed.

At that time it was stated that some electrical contractors were rapidly destroying public confidence in the construction industry. It now appears that the editor was not the first to discover this situation. Charles L. Eidlitz, erstwhile an electrical contractor of New York City, had long contended that the wide variance of figures in estimates submitted by electrical contractors proved either an ignorance of costs or a premeditated desire to gamble.

It seems that Mr. Eidlitz had already collected a wealth of facts to prove his case. He presented his findings to a local group of contractors in New York City, with the result that he was called upon to devise ways and means of showing them the error of their ways. Being a man of action, Mr. Eidlitz immediately submitted a plan, whereupon the electrical contractors of Greater New York proceeded to appoint him their high commissioner, with power to regulate and dictate practices whereby improved conditions are expected to accrue at an early date.

It is understood that the Association of Electragists will lend every assistance possible in the worthy program of Commissioner Eidlitz and it is sincerely hoped that the combined efforts of all interested parties will bring the desired results. Mr. Eidlitz was the first president of the electrical contractors' national organization. He is now in the manufacturing business, is held in the highest esteem by his associates, and is an outstanding figure of prominence in the industry. Although his present activities are confined to Greater New York, efforts will be made later to extend the results of his endeavors to other sections of the country.

Calling a Spade a Spade

There are at least a half dozen names in popular use to indicate a dwelling place that has been completely equipped electrically. House electric, electrical home, home electric, electrical house, home electrical, and electric home are the terms heard most frequently.

Why not quit beating the air in this respect and settle down to one name that combines the qualities of expressiveness and simplicity if possible in describing an electric home—an important phase in the development of electrical interests at the present time—and all use it?

The Association of Electragists, after careful thought, decided on one term which it uses in all promotion publicity, pamphlets, and literature to the trade, and the NATIONAL ELECTRAGIST also uses it exclusively in its columns. That simple term is *electric home*.

If *electric home* is not the best all around term, then let another be adopted which will be generally approved and universally used. With the building of more and more of these modern and model dwellings in all parts of the country it is high time that the electrical industry take the lead in deciding upon one name for them. The babel of tongues should not continue.

Divisional Conventions

Another step forward was taken by the Association of Electragists when arrangements were made at the Executive Committee meeting in March for Divisional conventions of the membership to be undertaken this summer by President James R. Strong and Director Laurence W. Davis.

It is significant that this new activity on the part of the Association is the result of provisions under the revised constitution, one of the first changes in which proposed: "To arrange for and promote meetings of electragists in the various sections of the country. Such meetings to be arranged to cover any given territory that is easy of access from the point where the meeting is held."

Under the old constitution such Divisional conventions could not be held to advantage because the large territory each one covered made it almost as difficult for members to attend a meeting of their respective Division as a general convention of all Divisions. Few members should find it impossible to get to at least one of these coming meetings.

Both officials will bring messages of vital importance to electragists in each Division. Mr. Strong will give his hearers the benefit of his continuous experience in the work of the Association since its formation, while Mr. Davis' addresses will contain a wealth of constructive information of benefit to every individual contractor-dealer business.

All Divisions of the Association will be covered during the summer months but two—Southern and Eastern Canada, where meetings will be held later in the season when better climatic conditions prevail.

The first convention, scheduled for June 14, will call together the members of the Eastern Division in Pittsfield, Mass. On July 12 at Chicago the Great Lakes Division will meet, and on the following day a dinner meeting will take place at Omaha. Three days later a convention of the Mountain Division will be held at Denver. En route to the Pacific Division territory a dinner meeting at Salt Lake City will take place.

Arriving in Los Angeles on July 20 a dinner meeting will be held, after which the trip will be resumed to San Francisco. Meetings will take place in San Francisco, Portland and Seattle, before the party arrives at Vancouver to hold a convention of the Western Canada Division on July 27. Meetings will be held at Calgary, Moose Jaw, Regina, Minneapolis, and St. Paul on the return east.

News of these conventions and meetings should be received with considerable joy on the part of A. E. I. members—and non members, too. Electragists who never have attended the one yearly convention of the Association—and those who have—will find much of far reaching good to be derived from these important gatherings.

Sell Individual Personality

There is a whole sermon in this one little paragraph contributed by E. E. Browne, president of the California State Association of Electrical Contractors and Dealers, to the *Journal of Electricity and Western Industry*:

"In view of price competition conditions as they have existed and no doubt will continue to exist, my only suggestion is the selling of our individual personality and service, for it has been my observation and experience that those in this industry who have pursued this course are the ones who are progressing."

This was written last January in reply to the *Journal's* question: How can the evil of destructive competition be overcome? Mr. Browne says that all such queries can be answered by the one word *work*.

Learn to sell the superior service of an *electragist*. Stand forth as a *professional* electrical man. Sell individuality—personality.

It requires hard work and lots of it, but individual personality is sure to get the best results.

An Encouraging Outlook

"Without vision the people perish." Perspective always is helpful in whatever phase of human endeavor it is applied. It may help electragists therefore in dealing with their own *status quo* of things to note some gratifying facts with reference to another branch of the field.

It is well known that electrical gains in illumination and power have been most noticeable in the past but it may be conservatively estimated that the progress in expanding the use of electric heating apparatus in industrial processes, one of the biggest problems confronting the industry within the next twenty years will be just as great. J. M. Curtin, manager of the industrial department of the Westinghouse Company, is authority for the following statements:

"Where water, steam and gas power once held full sway in the industries of the United States there is now being furnished by the electric motor approximately 65 percent of the power used. This is indeed a great growth when it is taken into consideration that it has almost all been ac-

complished since the beginning of the present century, and at the present rate of increase within the next five years approximately 75 percent of the power used by the industries of this country will be furnished by the electric motor.

"In the making of iron and steel more power is required than in any other single industry.

"In 1904 there was installed in this industry 2,900,000 horsepower of which 550,000 horsepower or 18.4 percent was electric motors.

"In 1914 the total horsepower installed was 4,060,000 of which 1,490,000 was horsepower or 36.7 percent was electric motors.

"In 1919 the total horsepower installed was 5,630,000 of which 2,811,000 horsepower, or 50 percent, was electric motors.

"This industry is typical and shows the extent to which the manufacturers of this country are adopting this modern form of power and the great part it is playing in converting the natural resources of a country into finished products for the use of mankind.

"In the mining and treating of ores, the mining of coal, and the conversion of forests into finished products, electricity has played an important part, and there can be no doubt but that the extent with which this great agency is used will affect the relative position of nations in the commerce of the world because of the economies and improved products which are possible by the use of electric power."

These statements are of much significance to the electrical industry as a whole. Their value should not be least appreciated by electragists.

Standardization Again

Much, but not too much, has been said or written on methods of standardization and on standardization of methods, standardization of installations, of material, of appliances and of workmanship. All thinking men in the electrical industry agree that standards will improve, expand and revivify their business. Untold amounts of money are annually spent for advertising. Why? To interest and educate the public. Advertising and standardizing are the two greatest factors in bringing about this end.

There is an important standard which has not yet been considered generally, although it has been discussed in small groups. This standard would go a long way toward public education—and mark it, public education means increased demand always—and this is simplification of terms or names for articles which the consumer uses. In other words, electrical industry nomenclature is not sufficiently lucid for a clear understanding so far as the generality of people is concerned.

For instance take the word "lamp"—the buying public invariably says "bulb." Is it too late for the lamp manufacturers to adopt that term which is popular with the public? How many owners or prospective home owners know what a "receptacle" or "base plug" is? We have adopted "convenience outlet," as the proper term for the public. Would not "convenience connection" be more readily understood by the layman?

Then why not stress the word electric as often as possible? What meaning does "vacuum cleaner" or "washing machine" convey as compared to "electric cleaner" and "electric washer"? Some time ago eight or sixteen candle power meant something to the woman who entered the retail store and wanted "bulbs." She could almost visual-

ize the light. But now when the clerk asks her if she wants "fifty watt lamps" she is utterly at sea, while the sensation, and the all too frequent air of superiority as evinced by the technically informed salesman, is far from pleasant.

Common usage has caused the incorporation of innumerable words in our modern dictionaries. Why not let common usage help in this matter? It is more or less the

public's right that it be made conversant with comprehensible precise meanings.

What is needed is a standardization of simple electrical terms. The trade and the public will then have one more point of common contact, and each such additional one necessarily adds to community interests and more free commercial activity.

Cost Finding Campaign Started in Greater New York

Charles L. Eidlitz to Act as Commissioner for Local Group, and the A. E. I. New Manual of Estimating is Adopted for Guidance

Somewhere around the year of 1888, at a time when electrical contractors were few and far between, Charles L. Eidlitz, then a very young man, became engaged in that line of endeavor in New York City. Contrary to some present day beliefs, competition was just as keen then as it is now; for although there were fewer contractors, there also were fewer jobs, and even less knowledge of estimating—impossible as that may seem.

Mr. Eidlitz did not go into business for his health, as many who have followed him seem to have done. He was earnest and ambitious. His aim was to establish a reputation for honesty and integrity. He cared less for a large volume of business on which prices had to be cut to maintain it, than he did for a fair amount of high grade work on which the margin was just and satisfaction was assured all around.

Conducting his business on these principles, Mr. Eidlitz prospered, and at the end of twenty-five years he retired from the electrical contracting business and entered the manufacturing branch of the electrical industry, where he is now at the head of several large and successful enterprises.

Recognizing the unstabilized condition of the construction trade, Mr. Eidlitz has for some time been making careful studies of the situation in an endeavor to devise means of betterment. He made a collection of cost figures which had been submitted by various electrical contractors throughout the city of New York, for the purpose of close analysis which might help to suggest a solution to the problem.

After long and earnest study of the figures thus obtained, Mr. Eidlitz made charts which proved to his satisfaction that the wide variance in estimates of the contractors was due to improper methods of cost finding. Appearing before a group of New York contractors

last February, he exhibited these charts and told his hearers that either they were ignorant of their costs or else they were in business only for their health and the pleasure they might derive from gambling.

No means of identifying the bidders shown on the charts were possible, as



Charles L. Eidlitz

the names had been destroyed and each bidder was indicated by letters—A, B, C, etc. Mr. Eidlitz did not mince his words, but plainly told those in attendance what he thought of an electrical contractor that would take a job at an actual loss and hope to make up the deficiency in extra work.

At the close of this interesting meeting a committee was appointed to confer with Mr. Eidlitz with a view to procuring his assistance in aiding the contractors to bring about improved conditions in estimating and business practices. A conference was held, at which Mr. Eidlitz volunteered his services to

accomplish the desired purpose, after which the following resolution was unanimously adopted:

WHEREAS, The business of electrical contracting has developed a speculative character to such an extent as to convert it from a profitable to an unprofitable business, partly due to economic conditions and partly to the increase of the speculative hazards normally inherent in the business, and

WHEREAS, It is desirable to take such remedial measures as may suggest themselves by a careful survey of the situation;

THEREFORE BE IT RESOLVED: That Charles L. Eidlitz be and he hereby is appointed a Commissioner of this Association to make such studies in whatever manner deemed best by him in consultation with the Executive Committee and to develop therefrom for this Association ways and means of transforming the business of electrical contracting from its present highly speculative character to a regularly profitable business, free from undue speculation.

And so it now is Commissioner Eidlitz, and electrical contractors throughout the Metropolitan district are expressing their approval of the idea and pledging their support to the new Commissioner.

In seeking some method whereby all estimates could be made on practically the same basis, Commissioner Eidlitz, who was one of the organizers and was first president of the National Electrical Contractors Association and who is an honorary member of the Association of Electragists—International, naturally turned to the new Manual of Estimating, which was designed for such use. He arranged for a meeting of New York contractors on April 5, at which time Laurence W. Davis, director of promotion and development for the A. E. I., demonstrated the plan and scope of the Manual, using charts and working out an estimate insofar as man hours were involved. This resulted in the adoption of the following resolution by Local No. 1 of New York City:

WHEREAS, The recent survey authorized by this Association has discovered the existence of various degrees of production efficiency among its membership; and,

WHEREAS, It is the opinion of the Survey

Committee that these varying degrees of efficiency in production are due to varying degrees of knowledge of the factors of production; and.

WHEREAS, The Association of Electragists, International, has made and published a collection of impartial and scientific data (Manual of Estimating) gathered from widely scattered and reliable sources; and,

WHEREAS, The aforesaid data was collected systematized and simplified for the purpose of reducing labor costs, or what amounts to the same thing—increasing labor efficiency; therefore, be it

RESOLVED, That the members of this Association adopt this collected data for guidance in estimating the hours of labor required for electrical construction work on any and all operations for which the members of this Association desire to offer proposals; and, be it further

RESOLVED, That a committee be appointed by the President to inform the members of this Association from time to time of any desirable changes in the data which may be indicated by experience and such other matters pertaining thereto as shall seem requisite and proper to the Committee.

On April 12 a committee meeting was held to formulate plans for carrying out the program of Mr. Eidlitz. The latter, as well as representatives of a number of local organizations were in attendance, the A. E. I. being represented by its president and secretary. Discussion brought out the fact that it was desired that the manual be distributed locally to any that might apply. It was decided, however, that as it is a rule of the A. E. I. to release it only to members for their exclusive use, a special arrangement be made to supply subscribers with the A. E. I. estimating service at a specified subscription rate.

Commissioner Eidlitz announced that a folder was being prepared for local distribution. He read the text, which follows, and which is entitled "A Message to Architects, Engineers, General Contractors, and the Building Public, from the Electrical Contractors' Associations of New York, Brooklyn and Queens."

Message to Building Public

During the post-war reconstruction period the building industry, in common with many others, suffered from both internal and external dislocations. The major causes of these disorders are probably too well known, though perhaps not too well understood, to require enumeration for present purposes.

Our entry into the war had stopped all building activity, except only such as contributed to the prosecution of the war. After the close of the war, building activity began again and had increased until the volume of business in 1921 was greater than that of any previous year. Deflation, set in motion by the Federal Reserve Bank in 1920, was

in full swing in 1921. Deflation of labor, demanded by employers, did not materialize. Mortgage money was not easily obtained for building projects on the basis of building costs then obtaining. Competition among contractors consequently increased and grew to ruinous proportions.

By degrees contractors in all trades in the building industry fell into the frame of mind that permitted them to enter into contracts for their services at prices which they thought would at least return cost, relying too implicitly on the motto which a benevolent government had caused to be stamped on our gold and silver coins, "In God We Trust."

But contracts at cost, for services, particularly those services rendered by sub-contractors, generally turned out to be losing contracts. Though losing money, the contractor continually had his eye on the pot of gold at the end of the rainbow. Hope was his chief stock in trade—hope that the next contract taken several degrees below cost would break well for him. He became a gambler. When he lost on the red he doubled, only to lose again.

There have been just enough cases of the opposite experience, which, when examined under the microscope of a Lockwood Committee, caused the public to assume that all contractors and sub-contractors have conspired to rob. Economic causes, plus the highly susceptible psychology of the contractor, have conspired to rob those engaged in the building industry of their common sense and business sagacity.

If it may be assumed that the members of the building industry are engaged in the business of selling their technical knowledge and services for profit to those who desire these commodities; and if it may be granted that such transactions are lawful, proper and defensible, so long as the purchaser pays no more than such services are worth; and if it be granted that the worth of such services is to be considered as including all prime costs, plus overhead expense, plus reasonable profit, then there is established a basis of understanding, as between buyer and seller, contractor and contractor.

Economists say that a commodity, or a service, is worth any price which may be established between buyers and sellers regardless of costs. If this generalization be correct what shall be said of the present market for agriculture produce? Common sense intervenes to say, that when any industry languishes

the public sustains an economic loss; the individual in the languishing industry loses his potential buying power and therefore harms that part of the commercial world with which he normally has contact. Psychologically and practically, the individual who is not only not making money but is actually losing it, is a brake on the wheels of progress, and if this condition proceeds far enough, he becomes a charge on the public.

What is true generally of the building business is especially true of the electrical industry. The individuals of this industry do not wish to combine for the purpose of limiting competition, not only because that is unlawful, but for the much more potent reason that such combinations do not work successfully, and for psychological reasons.

There are purposes which are entirely lawful, sensible, and defensible, for which combination is desirable. When such purposes are in mind, the term "coöperation" substitutes for "combination." This latter term has had far more obloquy cast upon it by the courts and investigators than its innocent etymology deserves.

Coöperation in the industry is entirely justified when it has for its object the scientific determination of

The Facts of the Industry; Factors of Costs; The Cost of Operation; The Methods of Computation; The Methods of Raising Labor Efficiency; The Systematic Publication of such Data as will be useful to all those individuals, contractors, architects and engineers, who have to do with the technical side of electragy.

In order to organize such coöperation throughout the electrical industry in New York, and in order to broadcast the purposes of such coöperation, Charles L. Eidlitz has been selected.

He has been given such powers and authority as are necessary in order to do these things. He belongs to the Industry, but is not a contractor. He knows the pitfalls and the miseries of the Industry, and the weaknesses and vagaries of its members. He enjoys a degree of confidence among Electragists possessed by no other individual and all who know him are content to grant all the power necessary to secure the kind of coöperation already described.

It is confidently expected that such coöperation as Mr. Eidlitz has in mind

will accomplish standardization of labor estimates of costs without in any way limiting competition; free exchange of information concerning operating costs without affecting the play of individual ingenuity and initiative; and the erection of standards of salesmanship hitherto unknown and unsuspected among electrical men.

Heretofore salesmanship has played little part in the electrical contractor's philosophy; he has depended on a price argument; and being without standards of cost, the price quoted could have but faint relation to cost.

With standards set up by coöperation such as it is possible for Mr. Eidlitz to establish, the electrical contractor can devote his energies and abilities to create character, personality and good will for his business, which after all are the foundation of all successful business enterprises.

Coöperation demands organization;

Organization demands leadership;

Leadership demands subordination of the individual;

Subordination of the individ-

ual demands courage of the highest order;

Courage produces character, and character produces good will; and finally,

Good will produces stability and profit.

The building industry in general, and the electrical construction industry in particular, needs four things: *Coöperation—coördination—standardization—stabilization.* When these four elements are attained, *good will, personality and character* will be the resultant gains.

Making Association Work More Effective

By J. E. BULLARD

Better Business Bureaus Are Helping to Raise Electrical Standards of Practice

One of the most difficult things to accomplish in any industry is to elevate the standards of doing business of those few who do not appreciate to the full the value of honesty. When an electrical league or local section of the Association of Electragists attempts to do this by force the result may not be all that is wished. These unscrupulous individuals then too often succeed in using the plea that they are being persecuted because they do not charge high enough prices.

In the electrical business perhaps the raising of general business standards in the community is more important than it is in most other lines due to the fact that electrical appliances are sold in so many different kinds of stores. Drug stores, department stores, hardware stores and many other kinds of stores sell some electrical appliances. The popularity of radio has brought into the electrical field many other dealers. In Providence, R. I., there are jewelry stores, music stores, automobile dealers battery stations, and for a time there was a stationery store selling radio, and the five and ten cent stores do quite a business in radio supplies.

Even if every man doing any contracting business was absolutely honest, it would be rather out of the ordinary if every person selling any kind of electrical appliances was doing business in accordance with the highest possible standards. Unfortunately, however, every man in this country in the contracting business is not doing business in accordance with the highest possible business standards. Some are not do-

ing so because they do not understand. Some are not because the desire for quick returns blinds them to other things. It is barely possible that some are not as honest as we would have them to be. In any case a condition exists which is not good for the future of the business unless it can be remedied, and it is one which it is not easy for the electrical men unaided to improve to the extent they would like to improve it.

The Better Business Bureau in Providence was organized and for more than a year has now been functioning to raise business standards in the community. It maintains a corps of shoppers who go from shop to shop making personal investigations in regard to the way the clerks treat the customers and to determine if the goods offered for sale meet the expectations created by the advertising. Anyone, customer, dealer or whoever he may be who discovers that any business man is not telling the truth about what he is selling, may report that man to the Better Business Bureau and the Bureau will take the matter up with the man about whom the complaint is made.

If the practice is not ethical the man is advised to discontinue it. If it is dishonest and he persists in it, he is warned. If he still persists in it, he is notified that another offense will mean that the matter will be taken into the courts. Rarely, however, is it necessary to prosecute.

Bureau Improves All Business

This Bureau has already had a decided effect in improving the average

business standards. Practices that were considered almost necessary a couple of years ago since have been to a very great degree eliminated. This is making it easier for the honest electragist to do business as he desires to do it. It keeps others from slipping because they know they are always being checked up. It makes the clerks and salespeople take more care in their selling methods because they know that sooner or later a report from the Better Business Bureau will be sent out either pointing out their faults or commending them for good service.

In addition to this the Bureau is making it a practice to investigate all financial investments offered to the public and to keep out of the city all concerns who take money away from the people in any fraudulent manner. As this work goes on, more and more money will be invested at home. People will have more money to spend on such things as better wiring and fixtures in the home, to put into such things that serve as the very best investments.

One difficulty with such movements as these, however, lies in the fact that though the business men who are supporting it may know all about it, the general public may not realize what is going on. To bring the work more forcibly before the public therefore a Better Business Week was held.

Twenty presidents of Providence organizations interested in civic welfare served as vice presidents under the chairmanship of W. H. P. Faunce, president of Brown University, on the general committee. Nineteen commit-

tees with 150 active committeemen served to carry forward the work of the various activities of the week.

Several thousand school children in the seventh and eighth grades and high schools prepared essays on the subject: "Why the Truth Should Be Told in Business." About 50,000 lines of advertising were employed in newspaper advertising, both Bureau and individual advertising being done.

Joseph H. Gainer, mayor of Providence, issued a proclamation on a Sunday endorsing the idea and commenting upon the benefits from every angle coincident with an increase in confidence and goodwill among our people one toward another. On the same day in more than one hundred pulpits and Sunday schools the moral lesson of the Better Business Week celebration was stressed.

Activities During Celebration Week

During the week some forty addresses were delivered before religious, social and industrial groups of varied character. Special window displays were made in the stores, a special poster was designed and used and a celebration dinner attended by between four and five hundred people was held. The speakers at this dinner were Jason Westerfield, director of public relations of the New York Stock Exchange; James Gould, advertising manager, R. H. Macy & Co.; David M. Mosessohn of the Associated Dress Industry of New York; and A. S. Goldsborough of the Merchants and Manufacturers' Association of Baltimore.

Not only did those present at the banquet hear these speeches but they were broadcast by radio and all the

radio fans in that section of the country listened in on them.

At the banquet there also was staged living pictures depicting the devotion to truth of the greatest Americans of the past. And in addition to all this, column after column of news space was given by the local newspapers to the idea of truth in business.

Greater Confidence Inspired

After a reasonable time had elapsed so that the enthusiasm of the week might wear off and the men could view the matter in a calmer and colder mood, the writer made personal calls on some fifty of the representative business men who took part in the week and who are members of the Better Business Bureau. The object was to determine if possible just what effect the Better Business Bureau and more especially the Better Business Week had thus far had upon business.

In some lines of business but not appreciably in the electrical field, there was a marked increase in sales during that week. An effort was made to determine if the people were coming to have more confidence in the Providence stores. In practically every case the men interviewed expressed the opinion that people not only were placing more confidence in the business men of Providence, but they were demanding more and more that the truth be told. The only criticism made was that once a year was not by any means enough to conduct such a week.

That the week did tend to bring people into Providence to trade was indicated by some specific instances noted. In one case a woman in the Boston trading area made a trip to Providence

to make several good sized purchases.

The point is that this is a movement that is cleaning up business in Providence. It is bringing about a condition which will make it easier for the local electrical associations to do their very best work. It is forcing every business man in the city to do business honestly. It is bringing before the public the importance of the strictest honesty in business. The week went a long way to teach school children what honesty means in business and to help make them honest when they enter business life a few years hence.

More Electrical Business

It is certain that this movement cannot do otherwise than increase the business done in the electrical line in the city. Any man in the electrical business, any officer of any local electrical association, any business man in town, or any other person finding that some concern is misrepresenting any appliances in regard to quality or price, any contracting work, or anything else connected with the electrical industry can make a complaint to the Better Business Bureau, an organization maintained by the business men who are striving to do business honestly, and that concern will be investigated and made to correct its methods.

This means that confidence in the local electrager is bound to grow. As confidence grows sales resistance breaks down. Hence with this Bureau in operation and with it extending its influence as it is through such mediums as the Better Business Week, it is only reasonable to look forward to a material improvement in electrical business conditions in Providence, R. I.

How to Conduct an Illumination Campaign

By REY E. CHATFIELD

Secretary Manager of Service League of British Columbia Tells Result of That Organization's Activity

Commercial lighting forms an appreciable portion of the average central station load and can be increased by the promotion of a proper illumination campaign for stores. For the past three months the Electrical Service League of British Columbia has been conducting such a campaign with very satisfactory results. The details of such a campaign are fairly simple and can be used by individual firms as well as by such co-operative organizations as the Electrical Service League.

Unfortunately electrical men must be sold the idea thoroughly first, before progress can be made. Ordinarily an electrical contractor or fixture dealer in selling fixtures and the necessary wiring installation for an illumination job sees only so much wire, pipe, and so many fixtures, and he is apt to lose heart when the prospect questions price, and the total runs into several hundred dollars. That man must firmly believe that he is not selling fixtures, but that he is selling publicity. Good illumina-

tion is cheap publicity. If the salesman can convince his prospect that the proposed illumination installation is permanent publicity, the cost of which is less than the monthly or annual appropriation for newspaper advertising, he should have no difficulty in making a sale. In order that a prospect may be convinced on this point the salesman, whether he be contractor or fixture dealer, must believe in it implicitly himself.

Having sold the electrical industry

this idea the propaganda and details of the scheme are fairly simple. The Electrical Service League in its campaign mapped out the retail business district, and from the central station obtained a mailing list of every user of electricity in that district. Then a series of three letters were multigraphed, addressed and signed as personal letters by the secretary-manager and sent out covering the retail district.

Letter No. 1

MEN AND MOTHS ARE ATTRACTED BY LIGHT

You don't care so much about the moths, but you depend upon the men and women you attract to your store to increase your daily receipts, turnover and success as a retail merchant.

Light is the beacon—not necessarily more light, but light properly applied. The average store keeper today is not getting the returns made possible through recent developments in the art of electric lighting. Yet there is no greater stimulus to action on the part of the buying public than a properly lighted store.

Under the glow of correctly located lamps and fixtures your merchandise will present a greater appeal. More accurate inspection of intended purchasers will be possible and quicker decisions by the shopper will result.

Proper lighting creates more satisfaction among new customers and strengthens the goodwill of all your patrons. Let us show you how to do it.

Yours for better lighting.

Five days later the second letter was sent out.

WHY DO SUCCESSFUL MERCHANTS ADVERTISE?

You don't have to guess the answer to that question—it is self evident. Prospective customers read the advertisements—and become buyers.

Do you realize that your show windows and the appearance of your store are worth more to you for publicity than pages of advertising? Newspaper advertising is read by about

twenty-five percent of the people who subscribe for or buy a newspaper. You can attract the attention of every passerby to your store *if it is properly lighted.*

Do your windows give you full value as a proper medium for publicity? Have you made an attempt to find out? Fully fifty percent of your sales to transient customers are made for you by your show windows.

Our business is store and window illumination. Can we not make a survey of your store and advise you as to its proper illumination? Recently our illumination engineer found a business man on Granville street using too much current to obtain the intensity of light he wished. By the installation of a proper reflector *he cut his consumption of energy in half and doubled the intensity of useful illumination.*

Perhaps your trouble is similar to the trouble of that merchant. We offer you this service free—if you are interested telephone Seymour 5000 and ask for Mr. Blank.

Yours for better lighting.

Then letter number 3 was mailed.

Dear Sir:

A few days ago we wrote you a little note stressing the value of proper lighting for your store and show windows. Since that time we have acquired the services of Mr. Blank, an expert in store lighting.

He will call on you some time during the week of to discuss with you the possibility of improving your lighting. Improved lighting does not necessarily mean more light, but proper direction, diffusion and color of light. Perhaps you are using too much light—if so he will advise you.

If you are interested in the illumination of your store we will be glad to draw up specifications and make recommendations for proper illumination without charge.

Yours for better lighting.

Before the third letter was mailed the retail area was divided into small districts. Through the coöperation of the central station, jobbers and contractor-dealers, salesmen were lent to make the necessary follow up calls.

As the letters were mailed each salesman was notified to make his scheduled

calls. This salesman when he found an interested prospect offered to have a proper layout drawn, free of charge. Through the coöperation of the central station these layouts were drawn by their illuminating engineer and furnished to the campaign manager.

These layouts were forwarded from the League office with a sales letter applying to the particular store under consideration and the interested contractor-dealers were then advised that a certain prospect was interested in lighting and that a layout had been drawn for him. Contractor-dealers then called on the prospect to close the job. In this way where the prospective purchaser declared no preference as to contractor he had several men urging him to make the new installation.

Results of such a campaign are cumulative, but the first sale of a proper illumination installation in each block is the difficult and crucial one to make. After one store has been sold competitors or adjacent stores are forced to improve their lighting in self defense.

The campaign so far has covered five hundred stores in an area of thirty-six city blocks and has resulted in from one to three new installations per block with the probability of this number increasing greatly in the next few months.

Any dealer can conduct such a campaign himself if the plans are well laid in advance and letters and layouts are carefully followed up with personal calls. The attractive feature of such a campaign is that one order brings another, and once the ball is rolling profitable business results.

Greater Boston Exhibits First Electric Home

Formally Opened on April 14 it is Scheduled to Close on May 5 and Should Prove Beneficial to All Interests Concerned

The first model electric home in Greater Boston was formally opened to the public on April 14 and is scheduled to close on May 5. It is being inspected by the public each business day from two o'clock in the afternoon until ten in the evening. From ten o'clock in the morning until two in the afternoon it is used by contributors toward the undertaking who desire to show it to their customers and prospects.

The home is located on the Wauwinet Real Estate Development of the Bonelli-Adams Company on Commonwealth Avenue, West Newton. Electrical appliances installed which are complete in every detail from the standpoint of a

most modern equipped dwelling cost approximately three thousand dollars at retail prices. Oil heating is used instead of coal.

Furnishings for the home have been lent by the Paine Furniture Company, a well known business in the territory, and the fact that they are valued at more than four thousand dollars is evidence that such furnishings are most elaborate and will show off each room, seven in all, to the best advantage.

The Electric League of Boston under whose auspices the exhibition is being held has had a large illuminated sign placed at the head of the street, reading: "The Electric Home," and giving

the opening and closing dates. Being floodlighted at night the home attracts the attention of many passersby during the night time.

A special street car dashboard advertisement was prepared and is being displayed on all cars throughout the neighborhood. Similar illustrations to the one here shown have been published in the ads of contractor-dealers, jobbers, and some manufacturers. Billboard advertising also has been entered into.

J. J. Caddigan of the Boston Edison Company, who is acting on the management staff of the home, advises that a new system of guiding visitors

through the home has been employed. The old way called for a lecturer in each room, which would mean seven lecturers delivering seven different talks to seven different groups at the same time. It was felt that while that method may be used successfully in many instances in this case the fact that the house is of wood structure with practically no doors on the street floor and everything throughout the house wide open, seven lecturers working at the same time would make it difficult for any one of them to be heard by his respective audience.

A guide meets a group of ten people at the entrance and after conducting them through the house as anybody would in his own home, being careful to explain everything, he bids them goodbye at the exit. This system allows for only a group of ten on the first floor, ten on the second floor, and ten in the basement, thirty people going through at the same time.

The press of the district was given a showing exclusively on April 12. On Friday the 13th, the lucky day, the home



An Architect's Drawing of the West Newton Home

was open for a special showing to the presidents and general managers of central stations, manufacturers, jobbers, and contractor-dealers.

In order to make the home one of rare beauty a ladies' committee was formed to carefully inspect every feature of it. The members of this committee were as follows: Mrs. Charles L. Edgar, chairman, Miss Olive A. Burriel, vice chairman, Mrs. Welles E. Holmes, Mrs. A. B. Tenney, Mrs. Frank S. Price, Mrs. Karl Norris, Mrs. Louis D. Gibbs, and Mrs. H. B. Gilmore. It is thought that this is the first time a ladies' committee of this kind has served in connection with an electric home.

The support of this undertaking by representatives of the central stations, jobbers, and contractor-dealers in electric wiring supplies has been so enthusiastically cordial that plans are be-

ing made to build similar homes in the nearby territory.

The first step in the development of the first Greater Boston home was taken at a meeting and dinner of the electrical supply jobbers of Boston with representatives of the Boston Edison Company. K. A. McIntyre of the Society for Electrical Development was in attendance and explained how such homes had been exhibited throughout the country.

A committee was appointed with H. B. Gilmore, New England manager of the Western Electric Company, as chairman, who with the help of W. H. Atkins, general superintendent of the Edison Company, soon interested the firm of Bonelli-Adams Company in the undertaking. A budget of approximately six thousand dollars was prepared, it was said.

Officers of the Electric League under whose management the exhibition is shown are as follows: President, H. B. Gilmore; vice president, Frank S. Price; secretary, Welles E. Holmes; assistant secretary, R. M. Miller; treasurer, Rockwell C. Tenney; central committee: H. B. Gilmore, W. E. Holmes, L. D. Gibbs, F. S. Price, R. C. Tenney, I. L. Matson, K. L. Norris, and W. J. Freethy; publicity committee: L. D. Gibbs, W. J. Freethy, H. B. Watson; wiring and illumination committee: I. L. Matson, E. F. Parker, and A. J. Paine; appliance committee: K. L. Norris, W. R. Timper, E. H. Foulke, M. W. Vye, Richard Lincoln, and Mrs. M. A. Sharkey; house manager, W. J. Freethy; assistant house manager, J. J. Caddigan.

Pawtucket Home Postponed

Exhibit Scheduled for Last Month to be Shown in June

Weather and transportation conditions having held back the completion of the house which is to be used for the Pawtucket electric home it was necessary to set ahead the time at which it was planned to open it from April 15th to the first part of June. Because of the present condition of some of the roads which will be in first class shape by that time and the greatly increased motor traffic which then can be expected there is every reason to believe that the postponement will result in a much larger attendance at that time.

The house is one of seven rooms which will sell for a price between \$8,000 and \$10,000, a house within the reach of the average seeker for a home



A Snapshot Corner View of the Pawtucket Home

of his own. The wiring has been brought strictly up to date. There are 37 lighting outlets, 17 switch outlets, and 21 duplex convenience outlets. All convenience outlets are knee high and all are duplex. The outlets are distributed as follows:

	Light'g.	Switch	Conven.
Front Porch	2	1	1
Back Porch	1	1	0
Hall	1	1	1
Parlor	3	2	3
Dining Room	3	1	3
Pantry	1	0	1
Kitchen	1	1	3
Rear Hall	1	1	1
Cellar and Laundry .. 7*	1	1	0
Stairs and Upper Hall..	2	2	0
Front small Bedroom ..	3	1	2
Front large Bedroom ..	3	3	2
Rear small Bedroom ..	2	0	1
Rear large Bedroom ..	4	1	2
Bath room	3	1	1
Total	37	17	21

*Three of the cellar lighting outlets will be used for ceiling convenience outlets.



H. E. Dawson, the League Secretary, Points Out the Knee and Waist High Outlets

There is a ceiling light with pull chain socket in the clothes closets of each of the bedrooms and in one of them there is in addition a door switch. The idea of this arrangement is to show people that door switches are optional but that every clothes closet should have an electric light installed in it.

Home Conveniently Located

This home is located about midway between two main motor highways upon which there is in each case a main car line between Providence and Pawtucket. Signs, flood lighting, arrows and the like will be used to direct the people to the home and with the opening postponed until June when motor travel will have begun in earnest, there is every reason to believe that attendance records will be broken. The house is also located where there is ample unrestricted parking space for automobiles.

Hollis, N. Y., Exhibits Home

A model electric home was exhibited to the public at Hollis, Long Island, N. Y., from April 12 to April 29, inclusive. It was of English style with eight rooms and bath, located only a few minutes' walk from the shopping district, the railroad station, and two bus lines.

The home was originally planned to be opened almost a week sooner, and when it was postponed arrangements for the showing were carried out in more careful detail, which helped to swell the attendance. Because of its ideal location prospective home buyers came to the exhibit in swarms.

All concerns that contributed in the matter of equipment did their best to make the demonstration an unusual success. Besides making everything as convenient and comfortable for visitors within the building, road signs and

directions for motorists were extensively displayed in the vicinity.

Half page announcements concerning the home were run in all the county papers previous to and during the exhibit. The use of a large electric sign was secured and this was placed in a vantage position near the home. A bank of floodlights illuminated it at night.

Companies contributing included: The Harry G. Duran Building Corporation—the home; King's—furniture and furnishings; X-Ray Reflector Company—period lighting fixtures; Daniel J. Smith—electric wiring; Richard E. Thibaut, Inc.—wall paper; Island Supply Company—maganestone stucco; Westinghouse Lamp Company—engineering service; A. H. Grebe & Company—radio—and New York and Queens Electric Light and Power Company—electrical appliances.

Electragist Standards Increase Profit

BY SAMUEL G. HIBBEN

A True Story as Related in "Contact" of How a Contractor Lost Out on Handsome Business by Doing a Cheap Brand of Work

Late Saturday afternoon T. D. Mixsell, proprietor of the remodeled Somerville Bakery, stood near the doorway rolling down his sleeves, and as he nodded to the last workman—the painter—who passed him going out, he took a pencil from behind his ear and jotted down a memorandum on a card.

"Thank goodness, that's the last of the expense for this rebuilding job," he said. "Too expensive—carpenters and painters and plumbers, these days. Cost me more to bring this bakery up to date than I figured on. But it surely looks good, though, with white enameled trim, terazzo floor, new steel ceiling, electric fans and sparkling glass showcases!" And with a final proud look around in the failing daylight, Mixsell set the latch on the front door, closed it behind him and crossed Union Square to his waiting automobile.

"Hello, Mixsell!" It was Whitney who thus addressed him. "How's the new store?"

"Shines like a Dutchman's kitchen," replied Mixsell smiling.

"My wife told me to be sure to look at it," went on Whitney. "Said it looked so sweet with the sunshine streaming through your big windows that her mouth fairly watered to buy something whenever you opened up for business."

"Well, I guess I can stand that," laughed Mixsell. "I open a week from tonight. Want to see the place?" So the two friends crossed over and entered the bakery. But when the proud proprietor switched on the lights, it didn't appear so attractive after all, and to Whitney's question about illumination, Mixsell replied, "You see, I've spent so much now for new equipment that I'm not going to change those old lighting fixtures for a while. Nobody'll notice them, and I guess folks can see to get around."

"But after all this planning an improving, and buying nice equipment," remonstrated Whitney, "do you mean you're not going to use it after dark?"

"Well, not exactly—you see—"

"That's the trouble, I don't see! You've bought a nice outfit; aren't you proud enough of it to show it and capitalize its sanitation and uptodateness?"

"Some large lamps might help?"

"No," said Whitney. "Bare glaring bulbs will spoil it all—make this white interior as cheerless as a Siberian snowfield. You can see it would be folly to have spent several thousand good dollars in dolling up the joint, and then to lose the effect and drawing value of it, in trying to save only a hundred dollars more. Let's finish the good be-

ginning, and put in a brand new set of lighting fixtures!"

"Supposing I hang a row of lamps down the center, and—"

"And have everyone who tries to look at the cakes in those new showcases stand directly in their own light? Listen, Mixsell. Here's winter coming on and it'll soon be getting dark about three or four o'clock. I'll bet more people come into your bakery after midafternoon than during the whole morning, and stuff you bake in the morning ought to be sold by nightfall, isn't that so?"

"Sure. Gets stale over night."

"Yes; and every evening, on my way home, I pass your show windows. Sometimes the wife tells me to bring a loaf of bread and I reckon if I were attracted by a brightly lighted bakeshop window display, I'd remember to stop in for that bread more often. You bet, Mixsell, and if while you wrapped up that ten cent sale I saw an appetizing layout of French pastry, illuminated so well that it was standing out just as it would look on my own bright supper table, don't you suppose that since it was evening, and since I was hungry then, and since I could see that the pastry was clean and fresh, that I'd buy some of that, too? Where's your

most profit, in the ten cent loaf that I've got to buy, or in the quarters worth of pastry that you sell me extra?"

"I can see that all right," replied Mixsell, "but all my electrician told me was that he could put in some lights cheaper than in the drug store across the square. What he described to me didn't appear to be any better than these old fixtures. It didn't seem worth the money to me. What do you recommend?"

So friend Whitney described the reflectors that were to be placed along the front edge of the show windows, concealed by a short curtain, and containing alternate clear and amber Mazda lamps to make the pastry look richer and more appetizing. He described the bluish white spotlight to illuminate the wedding cake that was to be shown on the opening night. He sketched the diffusing globes that would supply soft general illumination, not forgetting the white enamel of metal parts to match the interior trim.

Mr. Mixsell told Whitney who was doing the wiring. In order to insure the correct material Whitney, on the following Monday went to see Mr. Oakes, of the electrical contracting firm of Marlin and Oakes.

"Mr. Oakes," said Whitney, "I suggest you figure on eight of those 'Darzen' lighting units for my friend Mixsell's bakery—the 200 watt size. How soon can you draw him up a lighting specification?"

"My Lord, Mr. Whitney! Do you know what those fixtures cost? Fifteen dollars each; yes sir! Somebody else will get that work if I quote on anything as expensive as that! I can make up something myself, a lot cheaper.

"Eight at \$15 will be \$120, interrupted Whitney. "How did it come that Mixsell bought a terazzo floor for \$1,300 to attract his customers' feet; showcases for \$400 each to display goods to his customers' eyes; three \$25 electric fans to blow the flies away, and a \$260 cash register to better serve his customers? Isn't proper light on his goods the final necessity to help sell his stuff—to enable him to get his returns from his investment in all these other things?"

"Tell that to him, not to me!"

"I have, and he's ready to be sold. You intimate he won't buy good lighting; what you mean is that you won't try to sell him good lighting, isn't that about it? Why man, look here! Of all your jobs that have been installed

around these parts, is there even one that is able to create a desire in the minds of any of your friends or future customers for more of your work? Hundreds of contractors can rig up drop lights, or sell an imitation cut glass fish globe on the end of a log chain. You're trying to compete with that whole crowd, and it's a game of cut price 'till there's mighty little profit in such jobs as you *do* sell, and the customers you get want rotten lighting fixtures because you've helped educate them to expect such junk, because that's all they see, and it's all you show them!"

"Wait a minute, Whitney," answered Oakes. "You're the engineer of the electric lamp company, and are talking theory. I *know* Mixsell won't pay the price, because two years ago he turned me down when I tried to get him to relight his old store."

"Oakes," laughed Whitney, "You remind me of the bass that a man put in an aquarium. There was a glass partition that separated this aquarium into one side that the big fish swam about in, and into another side filled with minnows. The bass couldn't see the glass, and so every time he struck at a minnow he bumped his nose. That poor fish became a sorehead, and thinking to himself that they couldn't fool *him* anymore, he contented his hunger with what he could nibble from the bottom gravel and mud. Then the owner quietly removed the glass partition. The minnows swam all about the bass, but would he grab for one? Not much! He'd learned his lesson—business was rotten and he knew it!"

"But, Whitney, I'm not in the habit of selling these higher class jobs. Maybe you're right about my needing the nerve to try again, and to do differently, but how am I going to prepare a specification for that bakery?"

"Leave that to me, Oakes. I'll get the specification for you!"

And so Whitney did, and so to the surprise of Mr. Oakes the layout was accepted and purchased by Mr. Mixsell because it was different and distinctive; it looked like a real installation on paper and it proved to be so when the units were in place and burning on the opening night.

To know the end of this (which incidentally is a true story just as it actually happened) a close observer should have followed Mr. Oakes when he walked out of the bakery with a wondering sort of a smile on his face, and in his pocket a check for the best lighting job he had ever sold. One would

have seen him pause before some half dozen ill lighted stores, evidently the former work of his wiring firm, and standing before the last store on the block, he might have been observed to make a sudden and peculiar motion of his right foot, against his left ankle. One might indeed have said it looked like a self-inflicted kick, were it not for the determined grin he wore as he disappeared around the corner.

Bruce Barton Predicts

Bruce Barton, the well known editorial writer and magazine contributor in a recent issue of *The Elks Magazine*, says:

"Nothing impresses me more in going about among great corporations than the fact that almost every one of them has a group of scientists continuously at work on some invention or improvement which will make the world an easier place to live in. A lot of this work of research is going to come to a head within the next few years.

"We shall live to see the day when such tasks as milking cows, scrubbing floors, and washing dishes, any one of which can be done by electricity for a few pennies an hour, will be lifted forever from the hands and backs of women and men. Even the families that are now lowest in the social scale are going to have comfort and leisure, and opportunity such as never was in the world before."

What Service Means

An editorial in the *Fon du Lac, Wisconsin, Reporter* gives the following account of an unusual instance where real service saved a life:

A telephone operator, responding to the flash of the light on the board at the central exchange, heard a woman gasping, choking and unable to talk at the other end of the line. The operator with rare foresight phoned a neighbor, who went to the rescue of the afflicted woman. A human life was probably saved thereby and all through the medium of the phone and a quick-witted operator.

The incident is a good illustration of the many emergencies that the modern telephone operator meets and copes with successfully.

Remember this incident and others like it, those of you who are inclined to complain every time you are inclined to criticize the telephone service. Ask yourself whether sometimes the fault may not be your own.

Where the Electragist Stands

BY FRANZ NEILSON

Counsel of the International Association Makes
Illuminating Report on New Trademarked Word

At last year's Buffalo convention, which was the twenty-first annual meeting of the Association, M. H. Johnson of Utica, New York, suggested the adoption of the new names, Electragy, Electragist, etc., as relating to the business of electrical contracting and merchandising and the persons engaged therein. The words were unanimously adopted in resolution form. At the same meeting the executive committee instructed me to take all possible steps to insure to the Association and its members the exclusive right to the use of the words.

With the assistance of Alan N. Mann, patent expert of the law firm of Moore, Hall, Swan & Cunningham, New York City, research was made into the laws pertaining to trade marks and steps were promptly taken towards obeying the wish of the body as expressed in the resolution adopted.

The procedure taken and to be continued, upon which we would mainly rely to establish our rights, consists in general of development in the minds of the public of a direct and exclusive connection between the word Electragist and this your Association of Electragists—International—coupled with the distinct thought that one who is an Electragist is not only a member of this Association but is one who maintains unusually high standards in his business—one who may be said to maintain higher standards than do those who are not members of this Association.

In our studies it early became manifest that it would be advisable to concentrate on one word—and we chose "Electragist"—and for the time being refrained from featuring the remaining words in your list. It would be difficult to develop them as a group as applied solely to the Association and its members. You can develop Electragist as so applying. Now if you were to emphasize all the words equally and introduce them to the electrical industry contemporaneously, it is likely that you would defeat your exclusive desires regarding the one word on which we knew a successful campaign could be waged. If all were emphasized it would be difficult to single out the one word as being yours exclusively.

Merely one illustration to the point: Take the word Electragy as representing the name of the trade or business of an electrical contractor dealer; it strikes one at once as being more difficult to create in the public mind the idea that Electragy means not the trade of an electrical contractor and dealer generally, but only the trade of an electrical contractor and dealer



Franz Neilson

who is a member of the Association of Electragists-International, than it would be to keep hammering on the use of Electragist as meaning only a member of this Association and none other.

Four Essentials to Protection

As our studies progressed we found that there were four things essential to the establishment of your exclusive right to the use of the word Electragist:

- 1—Registration of the trade mark in the United States and Canada.
- 2—Promotion of the use of the word by the Association Headquarters.
- 3—Fullest possible use of the word by the membership at large.
- 4—Rapid development of superiority in the craft amongst the members over non-members.

The first on the list comprehended three registrations: two in the United

States and one in Canada. The one in Canada is a general registration which covers the widest possible use of the trade mark by our Association and members, including the trade mark of the Electragist. In the United States it was necessary to register the periodical separately from the registration permitting the general use of the word by the Association and members.

I am pleased to report that the certificates of registration from the U. S. Patent Office and Canadian Patent Office have been turned over to Secretary Johnson.

Where Members are to Use Name

You can do so in many ways. You can emblazon the word Electragist on your stores and offices, on the temporary signs you use where installation work is being done, on your letterheads, billheads, envelopes, in every advertisement you insert, in your business-building circular matter, on any articles that you may happen to manufacture; on all resale equipment and appliances where it is proper to place your name plate; in the place where you are privileged to put your name plate on installations; and in many other ways which will occur to your ingenious minds.

At the same time you will fall short of performing your duty if you allow any non-member to use the word without reporting it immediately either directly or through your state and local associations to Headquarters.

In this connection don't fail to watch for the unauthorized use by one who has been a member and who is so short sighted as to allow his membership to lapse. In passing I may suggest that when a concern, not a member of the Association or a former member, uses this word, there is presented one of the best opportunities in the world for getting a new member or retaining an old. It is a situation calling for the use of good salesmanship.

Development of Superiority

Another essential set before you is regarded by students of associations as one of the biggest things an organization can do. This perhaps is the main task before you as individuals in developing

our legal protection for our trademarked word—namely, to map a course leading to the attainment of perfection in your craft, to make of your Association a school in that endeavor, and to actually succeed in attaining to high standards both of workmanship and ethical practices. In short to stand out, each and every one of you, head and shoulders above those in the industry who through non-membership lack the advantages in improvement afforded by membership in this a different association.

Is there anyone who can doubt the pulling force towards your ranks once this condition is attained. In any event and aside from the pulling power in acquiring memberships, your counsel, when such standards are attained, will be well entrenched to successfully repel any effort on the part of an outsider to use the coveted name.

Greater proficiency in your individual businesses, including improved cost and office methods, as well as actual selling and installation work, you have been much alive to particularly since the advent of Bill Goodwin. I shall not dwell on that department. But the companion subject of higher ethical practices may be touched on briefly. To cover it adequately is a task for many minds.

This field, upon being studied further by the proper committees, will probably be found taking two distinct divisions.

(a) Finding a means of self discipline within the association in connection with our practice of business ethics.

(b) Developing some method by which Headquarters can record the progress of the members in these respects.

Modern industrial progress has created a condition where the simplified business transactions of the past have been supplanted by the complexities calling for new rules of the game. No longer as in the days of yore can the buyer judge of the majority of things purchased. The old rule "Let the buyer beware" does not fit. How far can a buyer judge regarding the intricacies of an electrical installation in his home or shop? By its very nature he must trust to the skill and integrity of his seller.

The present day complexes and specializations leave most individual sellers unable to determine whether or not a member of their craft has rendered services with due regard to the interests of all concerned—the buyer, the seller,

and the general public. That is a study for many minds and is therefore the function of the association of craftsmen. If a trade had no other excuse for the organization of an association, this alone would warrant such step.

How Ethics are Evolved

After an association has studied the question and written down the answer—usually in a code of ethics or set of standard practices—the public in time makes it its business to pass upon the code and judge of its fitness and fairness. Authorities are a unit on the principle that the higher the skill, the greater the need for organized group effort toward maintaining a fine sense of obligations not primarily to the others in the same craft, but chiefly to the general well being of all.

All this has not risen from unselfishness. You and I who have studied this question somewhat are prepared to argue the contrary; namely, that it springs from selfishness—but enlightened selfishness or self interest.

Since the buyer cannot judge, there is afforded an opportunity to an unprincipled seller to put something over. This being done in multiplied instances in a trade destroys the confidence of the public. The innocent in common with the cheats find a strong public reaction setting in. Then is when so many trades have found it imperative to give study to the subject of higher ethics which has usually resulted in organized effort to better the trade and increase the profits of those engaged therein. That is what is meant by enlightened self-interest.

After your committee has amplified on your present code of ethics in the light of the new necessities and established a model code, there will doubtless be discovered what the students have pointed out, that a code is primarily a measure of internal discipline. That being the case, it is readily seen that the trade becomes its own judge and to be a wise judge and an efficient demonstrator the Association must provide for machinery to investigate instances of violation of ethics, to counsel the violators where the heart is right, and to punish where punishment is necessary. Codes of ethics in and by themselves do seem good but for full value additional action is essential. Illustrations of where this is done are found in the County Medical Societies and the various state and city bar associations. Further research will doubtless find

illustrations in businessmen's associations as distinct from professional organizations. And if by chance not yet found amongst businessmen's associations, what a proud niche your trade could occupy by being recorded in the annals of organization history as the first businessmen's association taking such an advanced step.

Develop Public Confidence

While a code of ethics is primarily intended for internal discipline, it finds a secondary utility in that it enables justification of the trade before the public and the evidence of house cleaning coming to public knowledge, there is insured the confidence and esteem of the public including your customers.

Most of you are familiar with the campaign conducted by *Good Housekeeping Magazine*. A red star on a washing machine, vacuum cleaner or any household device which has passed the tests of the Good Housekeeping Institute is accompanied by the inscription: "Tested and approved by the Department of Household Engineering, Good Housekeeping Institute, Serial No. blank conducted by *Good Housekeeping Magazine*." That means that that particular appliance has passed the tests of Good Housekeeping Institute, has been given a thorough practical test and a careful engineering examination and has come up to the Institute's standards. It has been awarded a certificate of approval and given the privilege of using the seal.

Can you not see a situation in the future where through a diligent development of a higher code, a determined effort to practice its preachments and a successful passing of the tests of the Association of Electragists—International, a point is reached where any intending purchaser, coming to you to make a buy or enter into a contract, will consider himself immediately sold on noting that you are an Electragist? He will know that it means as much in your work as that Good Housekeeping red star does. Surely a goal worthy of your most capable efforts.

With the heavy responsibility resting on Electragists, a responsibility of supplying and installing conveniences for the giant, harnessed electricity, in manner safe to the life and property of the millions in our country, can Electragists afford to do less than bind the whole craft together for the erection and maintenance of high standards?

Scenes in the 1923 Convention City

Against a Background of Rustic Autumn the Capitol Will Be Seen in All Its Splendor by Electragists During the Week of October 8

There is little doubt that the Capitol will be first among the many attractions in Washington as the 1923 convention city is viewed by electragists during the week of October 8. It is fitting therefore that the scenes in and around this beautiful building be described beforehand so that all may know what to expect in the way of the annual outings on the occasion of this year's convention of the International Association.

The Capitol is situated on Capitol Hill almost a mile and a half from the White House and the Treasury. The building is open daily except Sundays and holidays. During a term of Congress the forenoon is the best time for inspecting the legislative halls and the various committee rooms. There is a staff of regularly authorized guides who conduct visitors through the building, and point out and explain all objects of interest.

Dignity, grace and beauty of design, and adornments and decorations beautify the Capitol, which is distinguished by its commanding situation and majestic proportions. From an elevated site on Capitol Hill, ninety-seven feet above the level of the river, it overlooks the amphitheatre of the Potomac and is a conspicuous feature of the landscape from miles on every side. The extent and arrangement of the grounds add much to the architectural effect.

The building faces the east, for in that quarter the projectors assumed that the city would grow; but the development of Washington has been toward the west, and it is from this direction that the Capitol is usually approached. From the main western entrance of the grounds near the Peace Monument the approach leads up the gently rising lawns to flights of steps which give ascent to the upper terrace or open court extending the entire length of the west front and around the north and south ends. Here a beautiful view is afforded of the city and encircling hills.

The crowning glory of the Capitol is the imposing dome. Springing from a peristyle of fluted Corinthian columns above the central building it terminates in a lantern which is surmounted by the Statue of Freedom over three hundred feet above the esplanade.

The fortunes of the American Indians furnish a theme which we find con-

stantly recurring throughout the decorations of the Capitol. The marbles and bonzes of the Rotunda portico are suggestive of the first contact of the white race and the red; the marble group in the tympanum of the Senate portico is significant of what the coming of the new race was to mean for the old.

A convenient program for seeing the Capitol is to study first the Rotunda, then to visit in succession the Hall of Statuary, the House and its committee rooms, the Supreme Court, and then the Senate and its rooms.

The Rotunda in the centre of the main building is the room to which one usually comes first, and it is a convenient point from which to visit the various parts of the Capitol. The north door leads to the Supreme Court rooms and the Senate chamber; the south door to the National Statuary Hall and the Hall of Representatives; the east door—Rogers Bronze—opens on the portico, and the west door leads to the west entrance.

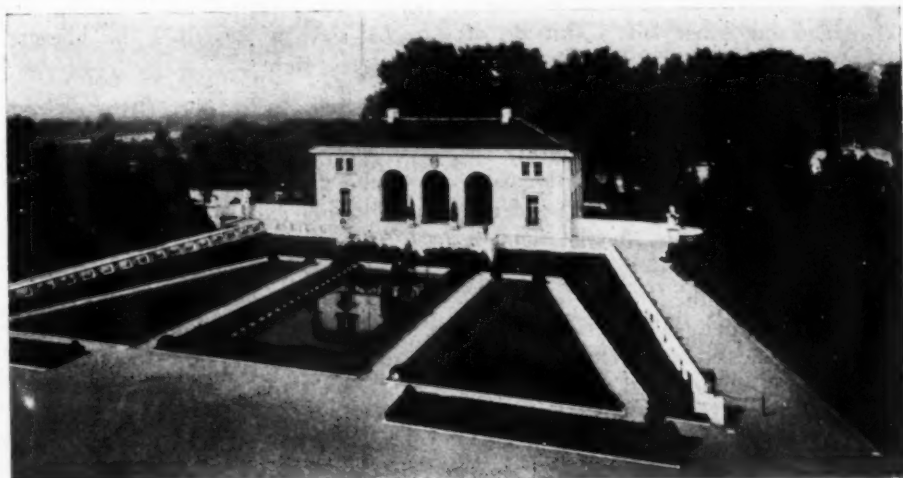
The Rotunda is an immense circular hall almost one hundred feet in diameter, and rising from floor to inner shell of Dome and canopy one hundred and eighty feet above. Light is admitted through the thirty-six windows of the peristyle. The walls are adorned with paintings, sculptures and frescoes, and the vaulted canopy top above the eye of the dome glows with color. The oil paintings in the panels of the hall have for their subjects memorable scenes in the history of the continent and of the United States.

At the east door of the Rotunda is the Rogers Bronze Door, designed and modeled by the American artist Randolph Rogers at Rome in 1858, and cast by Von Miller at Munich. The panels are filled with high reliefs illustrating scenes in the career of Columbus. The Rotunda portico is the scene of the inauguration.

The National Statuary Hall, semi-circular in shape and designed after a Greek theatre, is one of the most beautiful rooms of the Capitol. On the north side it has a colonade of Potomac marble with white capitals, and a screen of similar columns on the south side supports a noble arch. The domed ceiling, decorated after that of the Roman Pantheon, springs almost sixty feet, to a cupola, by which the room is lighted.

This room was the Hall of Representatives, and was the forum of the debates by Webster and Clay, Adams, Calhoun and others whose names are indelibly associated with the history of Congress. A plate set in the marble floor southwest of the centre marks the spot where John Quincy Adams fell, stricken with paralysis, during a session of the House. In 1864, at the suggestion of Senator Morrill, of Vermont—then a member of the House—the room was set apart as a National Statuary Hall, to which each state might send the statues of two of its distinguished citizens.

The Hall has some extraordinary acoustic properties by which whispers become shouts, and persons may converse with one another while their faces



The Garden in the Rear of the Pan American Building Which Overlooks the President's Park, and is Known as the Capitol of All the American Republics in the Capital City

Copyrighted by Schutz.

are buried in opposite corners. These peculiarities were a source of much vexation of spirit to the orators who debated here, but as now demonstrated by the guides afford entertainment for the visitor of today.

The Hall of Representatives as a legislative chamber is unsurpassed in the world. The Speaker's desk of chiseled white marble occupies an elevated position in the centre of the south side, and the seats of the Representatives are arranged in concentric semicircles with radiating aisles. A silver plate on each mahogany desk—in House and Senate—has engraved on it the occupant's name.

Some of the committee rooms opening off from the House corridors merit attention for their adornment. The Ways and Means Room and the Appropriation Rooms are handsomely frescoed. The Military Affairs Room contains a series of paintings of the forts of the United States. In the basement the scheme of decoration in the Territories Room is of Western Indian and wild life, and the Indian Affairs Room has a collection of paintings by Col. Eastman of scenes among the Sioux. In the Agricultural Room, elaborately decorated by Brumidi, are pictured Cincinnatus called from his plow to the Dictatorship of Rome, and Putnam summoned to his part in the Revolution.

The Supreme Court Room, designed after Greek models is a semicircular hall with a low domed ceiling having square caissons of stucco work. The room is decorated with a screen of Ionic columns of Potomac marble, the white capitals modeled after those of the Temple of Minerva. The columns form a loggia and support a gallery. In front of them is the Bench of the Supreme Court. The chair of the Chief Justice is in the centre, with those of the eight Associates on either side. Outside of the space reserved for Counsel are seats for spectators.

The Senate Chamber is a spacious hall. The seats of the Senators are arranged in concentric rows with the aisles radiating from the dais of the President's desk on the north side. On the right of the President's chair is that of the Sergeant-at-Arms, on the left that of the Assistant Doorkeeper, and in front are the desks of the clerks and official reporters. The room is surrounded by galleries, whence one may watch the proceedings. The walls are richly decorated in gold arabesques on delicate tints, with buff panels; and the glass of the ceiling is filled with symbolism of War, Peace,

union, Progress, the Arts, Sciences and Industries.

The Room of the President is set apart for the use of the President on his visits to the Capitol, and is one to which he comes in the closing hours of the session to sign the last bills before adjournment. It is decorated with portraits of President Washington and his first cabinet—Jefferson, Hamilton, Knox, Randolph and Osgood; with allegories of Liberty, Religion, Legislation and Executive Authority; and portraits of Columbus with emblems of Discovery, Americus Vesputius (Exploration), William Brewster (Religion), and Benjamin Franklin (History).

The Public Reception Room is a richly furnished apartment, decorated in oils and frescoes by Brumidi. On the south wall is a painting of President Washington in consultation with Thomas Jefferson, his Secretary of State, and Alexander Hamilton, his Secretary of the Treasury. The vaulted ceiling is all aglow with the brilliant colors of the allegories of War, Peace, Liberty, Plenty, Power, Temperance, Prudence and Justice.

These are perhaps the principal views within the well known Capitol; a personal inspection of the building will disclose many others of detailed interest.

If you never have been to Washington the occasion of the Twenty-third annual meeting of the Association of Electragists will prove the chance of a lifetime to see the beauties of the nation's capital. Headquarters will be at Hotel Washington.

Blessed is Electric Light

In his famous poetic writings on subjects of popular interest Walt Mason does not forget how the science of electricity has benefitted modern man. Here is the way he describes the blessings of electric light:

*When in my cozy room
o' nights, I count my blessings
every hour; I push a button
and the lights shine forth with
potency and power. Last night
the button failed to work, some
dynamo had broken down, and
midnight shadows seemed to
lurk o'er all the sore and sad-
dened town.*

*My aunt produced an an-
cient lamp, with misfit glass
and shade of green, and its ex-
terior was damp with evil
smelling kerosene. I cranked
it up and lit the wick, and said*

*"Now, we shall have some
light;" the smoke it sent forth
dark and thick, increased the
blackness of the night. When
turned too low it gave no light
when turned too high it acted
drunk, and I exclaimed, "Con-
found the wight who ever made
such hopeless junk."*

*I fooled with it in my abode,
neglecting more important
chores and in the end saw it
explode, and blew my aunt
clear out of doors. My clothes
were wet with kerosene, my
hide was full of broken glass
and neighbors say they wist
and ween my language shriv-
eled up the grass.*

*Our fathers used such dizzy
traps to light their homes and
thought them great, and much
I fear we modern chaps don't
realize our rich estate. I count
my blessings, count them all,
since with that coal oil lamp
I wrought; I press a button in
the wall, and lo, the light to
me is brought.*

Lighting Museums

Natural history museums of the future will be built without windows and will depend entirely upon electric light for illumination, according to Frederic A. Lucas, director of the American Museum of Natural History.

"Light is the great enemy of natural history collections," he says. "The lovely Luna moth fades after a few days exposure; feathers of humming birds actually seem to disintegrate on long exposure to light; a few years ruin mammals like deer and foxes. Some minerals even are affected by light, and Rose Quartz pales in the sunshine and must be kept in the dark."

It is the ultraviolet rays of ordinary daylight that do the damage, says Mr. Lucas. Attempts to filter out these rays through frosted or colored glass windows have not been successful.

Electric light has many advantages; it shines when and where it is wanted, and barring accidents it shines at all times with the same degree of intensity.

Only 44 Years Ago

In April, 1879, the *London Times* printed a letter from a reader protesting against electric lighting of Albert Hall as a "very ghastly and unpleasant innovation."

Chats on the National Electrical Code

BY HUBERT S. WYNKOOP, M. E.

Monthly Discussion of National Electrical Code Practices by Well Known Authority in Charge of Electrical Inspection, City of New York

Vault For Low Voltage Transformer

Where an oil filled transformer operating at less than 600 volts on the primary side is located in a building, it seems unnecessary to call for the usual transformer vault—and as a matter of fact the Code does not require it. The chance of a transformer of this kind exploding is remote, although it may develop a leak. It should therefore be set in a pan or basin large enough to retain all the oil.

Heat Resisting Insulation on Fixture Wire

How inspectors would sigh with relief if the use of rubber as an insulation for fixture wires were abandoned. There is continual argument over the wiring of fixtures—the fixture man having used heat resisting insulation where the inspector thinks that rubber should have been employed, and vice versa. Neither side produces a thermometer; nor would such a rough test as the surrounding afforded give decisive results.

As a matter of fact we shall soon have to review all socket, receptacle and fixture standards in the light of the new experience gained with gas filled lamps. When sealing compound oozes out and socket composition turns into plastic gum, it's time to act.

Hard Service Cord For Wiring Outdoor Fixture

We are trying an interesting experiment. Given a 250 pound lantern and bracket for a church entrance; the lantern hanging by means of several heavy links from a solid bar passing through the wall; an outlet in the granite at the face of the wall; how to wire? Rigid conduit is out of the question. Flexible conduit or armored leaded cable is unsuitable because the flexing of the lead sheath will break it. Open wire on spreaders would spoil the appearance. Open wire lashed to the metal is not good enough.

But the job has to be done. Well, we're trying hard service cord lashed to the metal and threaded through the links, the cord beginning at the weather-proof outlet on the face of the building and ending within the lantern. Perhaps some one has a better solution of the problem to offer. Do I hear some

one say: "You couldn't get away with that in *this* jurisdiction!"

Running Grounding Wires

Generally speaking, the most satisfactory method of wiring for grounding wires is conduit. Some inspection departments where the house wiring is on an all-metal basis require conduit for the grounding wire as a matter of course, others require it as a precaution against mechanical injury, while occasionally the lighting company demands it because it is believed to be the best construction.

A careful reading of the second paragraph of No. 15 Aj seems to make it clear that a grounding wire run on knobs could not be approved in a territory where open work on knobs or cleats (for the house wiring) would not be permitted. Chicago requires that the conduit and the ground wire within it be connected to the water pipe by independent clamps. Here in New York we accept open work (ground wire run on knobs) where there is little likelihood of mechanical injury.

Identification of Grounded Conductor

The 1923 Code will specify that for rubber covered wire the identification shall consist of a white or natural gray covering. Contractors need not wait until next Fall to get into step with this requirement.

1923 Code—No! Yet!

Contractors should bear in mind that the adopted revisions of the Code cannot become effective until the new edition of the Code has been issued, and that each inspection department will then fix the date upon which the new requirements become operative.

Ground Wires Outdoors

May a ground wire run on the outside of a building be strapped directly thereto? I think not; because No. 15 Aj requires it to be run like any other electric light wire and because the Code applies to wires *on*, as well as *in*, a building. Furthermore a wire run down on the face of a building is presumably subject to mechanical injury, and would require pretty good protec-

tion—such as might be afforded by an iron pipe. If conduit is used, it is easy to comply with the above cited rule.

In this connection, it might be well to say that a ground wire is certainly a part of the system which it grounds, and that one cannot require a separate pipe for it under No. 26p, which prohibits wires of "different systems" in one pipe.

Porcelain

This is a rather bothersome subject, as the insulator people seem to be not at all well organized along lines which are helpful to inspection departments. Probably we shall have to continue taking on faith the glazed cleats and knobs, where they are not too badly crazed or cracked; but the fountain pen with which every inspector of today is equipped furnishes a ready means of applying the ink test to unglazed porcelain.

This consists in placing a small drop of ink on the cleat or knob and noting whether it runs like a drop on blotting paper or retains its position like a drop on glazed paper. I have used this rough and ready test for over 25 years and recommend it. A few refusals to pass the stale angel cake variety of unglazed porcelain will result in an immediate and remarkable improvement in the quality.

Cutout Boxes and Cabinets

The metal box industry seems to be no better organized than the insulator people. Every tinsmith and cornice maker puts out alleged standard cutout boxes and cabinets. On account of the low price, contractors are tempted to buy them instead of honest to goodness boxes.

Consequently since most of this product is substandard and therefore not labeled, and as inspectors can hardly find time to check up these boxes with the standard requirements as to thickness of metal, etc., we gradually become dulled to this condition. Every two or three years we rouse ourselves and begin demanding real boxes, only to fall off again little by little. The real remedy, of course, is to insist upon and obtain labeled goods; but this cannot always be done.

ORGANIZATION ACTIVITIES

STATE CHAIRMEN AND SECRETARIES

State	Chairman	Secretary	State	Chairman	Secretary
ONTARIO, CANADA:	Harry G. Hicks, 203 Church St., Toronto	J. A. McKay, 24 Adelaide St., W., Toronto	MARYLAND:	A. C. Brueckmann, Keyser Bldg., Baltimore	C. Philip Pitt, 7 St. Paul St., Baltimore
BRITISH COLUMBIA:	S. E. Jarvis, 570 Richards St., Vancouver	R. Graham, 929 Pender St., W.	MICHIGAN:	Henry Roseberry, 41 Pearl St., Grand Rapids	H. J. Shaw, 613 Lincoln Bldg., Detroit
COLORADO:	J. Fischer, 213 15th St., Denver	H. Alex Hibbard, E. & C. Bldg., Denver	MISSOURI:	Oscar L. Fickie, Kansas City	A. J. Burns, 533 Delaware St., Kansas City
CONNECTICUT:	Tryon Smith, 247 State St., New London		NEW JERSEY:	Geo. E. Davis, 23 Central Ave., Newark	Elmer D. Wilson, 23 Central Ave., Newark
DISTRICT OF COL.	Frank T. Shull, Elliott St., Washington	H. R. Harper, 635 D St., N.W., Washington	NEW YORK:	F. A. Mott, 29 St. Paul St., Rochester	H. F. Janek, 29 St. Paul St., Rochester
INDIANA:	T. F. Hatfield, 102 S. Meridian St., Indianapolis	A. I. Clifford, 507 Odd F. Bldg., Indianapolis	OHIO:	C. L. Wall, 212 S. Main St., Akron	Walter R. Keefer, 939 E. McMillan St., Cincinnati
IOWA:	Louis L. Corry, 510 Brady St., Davenport		PENNSYLVANIA:	R. W. Keck, Allentown	M. G. Sellers, 1518 Sansom St., Philadelphia
KANSAS:	C. S. Smallwood, 1017 N. 5th St., Kansas City	Arthur Tucker, 619 Jackson St., Topeka	TENNESSEE:	P. W. Curtis, Chattanooga	J. A. Fowler, 10 S. Second St., Memphis
LOUISIANA:	Robbey S. Stearnes, 336 Camp St., New Orleans	I. G. Marks, 406 Marine Bk. B., N. Orleans	WISCONSIN:	L. C. Ross, 1305 Tower Ave., Superior	H. M. Northrup, 25 Erie St., Milwaukee

LIST OF LOCAL ASSOCIATIONS AND MEETINGS

State and City	Local Secretary	Street Address	Time of Meet.	Place of Meet.	State and City	Local Secretary	Street Address	Time of Meet.	Place of Meet.
ALABAMA					PATERSON	H. M. Desaix	88 Ellison St.	Last Friday	P. S. Bldg.
Birmingham	J. R. Wilcox	313 No. 19 St.	Tues. 10 a. m.	Members' Office	New York				
Mobile	Frank Sigler	Sigler Elec. Co.	Wed. 5 p. m.		Albany	E. A. Stephens	71 Trinity Pl.	3d Thursday	Pekin Rest'nt
ARIZONA					Binghamton	A. H. Hyle			
Phoenix	A. H. Rosenburg		Tues. 4 p. m.	Bldrs. Exc.	Brooklyn	H. F. Walcott	44 Court St.	1st & 3rd Wed.	Johnston Bldg.
CALIFORNIA					Buffalo	E. P. McCormick	555 Wash. St.	Fridays	507 Elec. Bldg.
Anaheim	Mr. Waite		1st & 3rd Mon.		Cooperstown	B. B. St. John	Oneonta	3d Tues.	Vanon
Berkley	J. M. Gregory	Oakland	Tues. Ev'g.	Oakland	Endicott	A. H. Hyle	Binghamton	Tues.	Cham. Com.
Covina	F. Rambo	1162 Broadway		Comm. Club	Glens Falls	W. F. Combs	21 Main St. S.	3d Mon.	Migrs. Ass'n.
Fresno	Clyde F. Smith	So. Cal. El. Co.	Tues. 8 p. m.	Municipal Club	Jamestown	Henry Lund	309 Main St.		
Long Beach	C. A. Cummings	118 E. 3d St.	12 Noon, Thurs.		Kingston	M. C. Rivenberg			
Los Angeles	Irvin C. Brues	Pacific Bldg.	Tues. 6:30 p. m.	Pacific Bldg.	Nassau-Suffolk	H. J. Wick	Bay Shore		
Oakland	J. Gregory	165 Jessie St.		States' Cafe	New Brighton	E. L. Taylor	Tottenville	1st Thurs.	Bldg. Trades
San Francisco	A. Elpins	1128 Mission St.		Cham. Com. Bldg.	N. Y. Sec. No. 1	J. W. Hooley	45 Barclay St.	2nd & 4th Wed.	226 W. 58th St.
South Pasadena	J. Jacobs			Pin Ton Cafe	Independent	John Perass	22 New Chamber	Monthly	Various Stores
Van Nuys	Los Angeles Ass				Sec. No. 3	L. F. Luedcke	Olean L.&P. Co.	3d Thursday	Eggleston Hotel
COLORADO					Olean	H. C. Thuerk		1st & 4th Mon.	ara'gs & G. Fa's
Denver	Alex Hibbard	E. & C. Bldg.	2d & 3d Tues.	E. & C. Bldg.	Oneonta	B. B. St. John	29 St. Paul St.	2d & 4th Thurs.	Subject to call
Manitou			Friday Nights	Col. Springs	Rochester	H. F. Janek	S. Glen Falls	1st & 3d Thurs.	St. George, S. I.
Pueblo	H. Ashcraft		2nd Tues.	Commerce Club	Saratoga Springs	W. F. Camp	McClellan St.	1st Tues.	Gas Office
CONNECTICUT					Schenectady	Mr. Spengler	P. O. Box 809	3d Fridays	Utilities Bldg.
Hartford	Mr. Cook	Hart & Hegeman	1st Wed.	Hartford	Syracuse	H. N. Smith	Tottenville, S. I.	Monthly	
New Britain	F. Mulvehill	Conn. Lt. & P. Co.	2d Tues. Ev'g.	Builders Ex.	Troy	W. Taylor	First St.		
Waterbury	D. B. Neih				Utica	W. C. Balda	228 Genesee St.		
DIST. COL.					Watertown	L. B. Smith	Roth Block		
Washington			2d Thurs.	Dewey Hotel	Woodmere	Geo. La Salle	Westbury		
FLORIDA					Yonkers	Mr. Mayer	Manor House Sq		
Jacksonville	M. A. Ladd	Stinson Elec. Co.	1st Tuesday	108 W. Bay St.	OHIO				
Miami	C. E. Pullen	Pullen-Zoll Co.			Bellaire	Harvey Uhl	211 Water St.	Alternate Thurs.	2d Nat. Bk. B'g
GEORGIA					Canton	J. Blumenberg	Bellaire	Call of Sec'y	Bellaire
Atlanta	W. C. Drake	Ga. Ry. & Pr. Co.	12:30 Fri.	Dafodil Res.	Cincinnati	H. E. Sanders	4th St. & Waln't	1st Tues.	Industrial Com.
ILLINOIS					Cleveland	W. R. Keefer	939 E. McMillan	Tues. 3 P. M.	Cham. of Com.
Chicago	J. W. Collins	179 W. Wash. St.	2nd & 4th Wed.	Lmbrms Ex.	Columbus	Geo. D. Bury	Elec. League	1st & 3d Thurs.	Hotel Statler
Decatur	E. O. Weatherford	114 E. Wm. St.	1st Wed.	Y. M. C. A.	Dayton	O. A. Robins	9 E. Long St.	Every Thurs.	Girls Ath'ic Club
Springfield	C. A. Meadow	407 E. Adams St.	Sat. 2 P.M.	Arcade Bldg.	Springfield	O. J. Osmond	41 Fountain Av.	1st & 3d Mon.	Bldrs. Exchange
E. St. Louis	C. F. Broderick	317 E. Bro'dwy	1st & 2nd Tues.	Post Hall	Steubenville	J. R. Yost		On call	Various
La Salle	Ed. Blaine	18th & B'dway	2d & 4th Wed.	214 1/2 No. 6th St.	Toledo	D. C. Hartford	16 Huron Bldg.	1st Wed.	Nat. Ex. Bank
Quincy	John Harbison		Monthly		Youngstown	J. Kelly	Builders Exch.	Ev. Wed. 8 p.m.	16 Huron Bldg.
Rock Island	John Weisner	613 Tyler St.			ORANGE	F. F. McBride		Mon. Noon	Y. M. C. A.
Streator	Wm. Schroder				Medford	S. C. Clark	Cal. Ore. Pr. Co.	3d Monday	
INDIANA					PENNSYLVANIA				
Evansville	I. A. Welburn	404 Main St.	Ev. Fri.	Y. M. C. A.	Allentown	A. W. Hill	Bethlehem	Last Thurs.	
Gary	G. B. Harris	570 Washington	1st & 3rd Thurs.	Comm. Club	Bethlehem	A. H. Hill	510 W. Main St.	Monthly	
Indianapolis	A. W. Ball	Peoples Bk Bldg.	2d & 4th Mon.	Labor Hall	Catsauqua	W. T. Kleppinger		Monthly	
Peru	J. B. Johnston	West 5th St.	1st Tues.	B. & T. Ex. Bldg	Dubois	C. E. Blakeslee	Bethlehem	3rd Friday	Bldrs. Exch.
South Bend	Mr. Moran, Jr.	832 N. St. Louis	Wed. Ev'g.		Easton	G. E. Hill	Bldrs. Exch.	2nd Thurs.	Und'w'trs Office
Warsaw	L. F. Meyers	120 E. Market St.			Eric	Earl Stokes	434 S. Sheppen	1st Thurs.	1518 Sansom St.
IOWA					Lancaster	A. Deen	1518 Sansom St.	Tues.	4th Ave.
Davenport	Louis F. Gory		Mon. 6 p. m.	Chamber Com.	Philadelphia	M. G. Sellers	Bd. of Tr. Bldg.	Mon.	Zenke's
Sioux City	F. H. Abbott	446 N. Main	Mon. 6 p. m.	Jackson Hotel	Pittsburgh	Fred Rebels	Penn. Pr. Lt. Co.	Tues. Ev'g's	Penn. Pr. Lt. Co.
Waterloo	H. L. Hileman	609 Bluff St.			Scranton	C. E. Blakeslee	E. King St.	2d & 4th Tues.	
KANSAS					Wilkes-Barre	A. E. Harris			
Topeka	H. S. Lee	816 Kansas Ave.	Mon. Noon	Elk's Club	PROVIDENCE	Herbert C. Hill	35 Westminster St.	1st Thurs.	
Wichita	L. A. Harris	446 N. Main	Ev. Tues. 7:30	United Elec. Co.	SOUTH CAROLINA	E. L. Cashion	Sumter, S. C.		
KENTUCKY					Columbia	E. C. DeBruhl	Ideal Elec.	Wednesday	Manhattan Cafe
Louisville	Chas. Daubert	921 S. 3rd St.	2-4 Thurs.	B. of T. Bldg.	Greenville	Carl Schneider	412 Kirby Av.	Noons	Rev. Lt. Co.
Paduach	W. R. Kitterjohn	406 Mar. B. Bldg.	Last Thurs.		Chattanooga	H. M. Moses	615 Market St.	Monthly	Allyn Cafe
LOUISIANA					Knoxville	H. A. Street	285 Madison Av.	Ev. other Wed.	Tribune Hotel
New Orleans	Frank Gacheck	406 Mar. B. Bldg.	2 P.M. Mon.	406 Mar. B. Bldg.	Nashville	J. Shannon	8 Ave & Church		
Shreveport	Percy Elliott	Elliott El. Co.	Ev'y Monday		TEXAS				
MAINE					Dallas	H. A. Brewster	409 S. Eway	On call	409 S. Eway
Portland	N. S. Boothing	222 Middle St.	On call		El Paso	R. S. Murray	1515 N. Cam'b'll	Ev. Tuesday	303 Martin Bldg
MARYLAND					UTAH				
Baltimore	Geo. Robertson		Bi-monthly	Soathem Hall	Salt Lake City	Gus Forsberg	69 E. 4th So.	Wed. 12:15 p.m.	Newhouse Hotel
MASSACHUSETTS					VIRGINIA				
Fitchburg	R. M. Gowell		1st Mon.	Fay Club	Lynchburg	W. M. Elliott	Lynchburg	1st Wed.	Local Stores
Haverhill	H. W. Porter	24 West St.	2d Mon.	El. Lt. Sta.	Norfolk	K. D. Briggs	Jeff. & Grace Sts	Wednesdays	Old Col. Clb.
Springfield	Mr. Ayers	103 Rochelle St.	Monthly	Cham. Comm.	Richmond	W. A. Cutlett			
West Medford	H. J. Walton	Malden El. Co.	2d Thurs.	Various	WASHINGTON	Rush McCarger	3d & Madison St	Thursdays	Elks Club
Worcester	J. W. Coghlin	259 Main St.	Ev'y oth'r Tues.	Post Tavern	WISCONSIN				
MICHIGAN					Green Bay	John B. Tingley	223 Cherry St.	1st Thurs.	Nicolet Bldg.
Battle Creek	H. Shaw	613 Lincoln Bldg	Last Thurs.	G. A. R. Hall	Milwaukee	Thos. W. Nixon	719 Majestic Bld.	2nd Tuesday	Republic'n Hot'l
Detroit	J. Markle	718 S. Saginaw	Tues. Noon	Ass'n of Com.	Racine	F. H. Patrick	1545 W. Blvd.	1st Tues.	Racine Bldg.
Flint	Henry Romyn	40 Ionia Av. N.W.		Cham. Com.	CANADA				
Grand Rapids	M. Randall	Exch. Place	1st & 3d Mon.	44 Front St.	Calgary	E. W. Beard	The Gringer Co.	Bi-weekly	Christie Elec. Co.
Kalamazoo	E. T. Eastman	209 Brewer Arc.	2d Thurs.		Guelph	W. E. Lemon	c/o N. Elec. Co.	2d & 4th Mon.	
Saginaw					Hamilton	K. J. Donoghue	c/o Doerr El. Co.		
MINNESOTA					Kitchener	O. S. Leyes	128 Osgoode St.	Mon. 8:00 p.m.	Elec. Insp. Office
Duluth	D. Ehler	210 W. 1st St.	Subject to Call		Ottawa	A. C. McDonald	Electric Shop	1st & 3d Wed.	Chamber Comm.
Minneapolis	W. J. Gray	511 S. Third St.	2d & 4th Mon.	Builders' Exch.	St. Catherine	A. J. Desand	24 Adelaide St.	2d Tues.	Bd. of Trade
St. Paul	Sydney Spofford	923 Grand Ave.	6:30 P. M.	Elk's Club	Toronto	J. A. McKay	929 Pender St.	Ev'y Tuesday	425 Pacific Bldg.
MISSOURI					Vancouver	R. A. Graham	609 Moy Ave.		
Kansas City	R. L. Hutton	212 Admir'l Blvd	2d Tuesday	University Club	Windsor	A. H. Cook	Gen. Elec. Co.		
St. Louis	E. Bowman	644 Centu'y Bldg.	1st Wed.	Am. Hotel	Winnipeg	R. N. Elgar			
NEBRASKA					Niagara Peninsula	W. H. Mackenzie	609 Moy Ave. W.		
Lincoln	G. C. Kingham	142 S. 12th St.	1st & 3d Mon.	C. of C. Bldg.					
Omaha	Israel Lovett	City Hall	1st & 3d Tues.	Builders Ex.					
New Hampshire									
Portsmouth	F. C. Hatch	Kittery	2d & 4th Wed.						
NEW JERSEY									
Atlantic City	F. P. Wright	16 Ohio Ave.	1st Thursday	Malatesta Hotel					
Jersey City	Wm. Doellner	743 Bergen Ave.		P. S. Bldg.					
Long Branch	Chas. Maggs	462 Bath Ave.	1st & 3rd Mon.	Comm. Hotel.					
Newark	Geo. F. Davis	73 Central Ave.	1st Monday						

A. E. I. Conventions

Plans Progressing for Divisional Meetings of Membership

As announced in the last number of the NATIONAL ELECTRAGIST President James R. Strong and Director Laurence W. Davis of the Association of Electragists are planning to make a transcontinental trip this summer in the interest of Divisional meetings of the membership. All Divisions will be covered with the exception of the Southern and Eastern Canada which will be visited later in the season.

The purpose of these meetings, in conformity with the provisions of the revised constitution of the Association, is to bring the members in closer touch with the activities of the Association. It is felt that in the past the membership in certain parts of the country has not had the benefit of the broad educational work of the organization which can be understood and appreciated only through personal contact at such get together meetings.

Members who are unable to attend the one annual International convention should consider these meetings as taking the place of that convention. Present plans call for similar meetings to be held in each Division annually from now on. It must not be understood, however, that the one annual International convention will be less important on account of the Divisional meetings.

Pittsfield, Mass., will be the scene of the first meeting on June 14 in behalf of the members in the Eastern Division including states as follows: New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, and District of Columbia. Luncheon and dinner are scheduled. In conjunction with this Divisional meeting the members of the New York State Association will hold the regular semiannual meeting of that body, the Executive Committee of which meets June 13. Further itinerary of the trip is as follows:

Chicago.—On July 12 an afternoon meeting including luncheon and dinner will take place in Chicago of the Great Lakes Division. These states are in this Division: Michigan, Ohio, Indiana, Illinois and Wisconsin.

Omaha.—The party will arrive in Omaha for a dinner meeting on July 13. States included: Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota and South Dakota.

Denver.—On July 16 electragists of the Mountain Division will gather in Denver to hear the Association officials. Luncheon and dinner will be served. Here are the Mountain Division States: Idaho, Montana, Wyoming, Utah, Colorado and New Mexico.

Salt Lake City.—A dinner meeting will be held in Salt Lake City on July 18. On the following morning the officials leave for Los Angeles.

Los Angeles.—A dinner meeting will be held here on July 20, the party leaving the following morning for the next stop. Contractor dealers who attend the meeting in Los Angeles will be representative of the southern half of the Pacific Division.

San Francisco.—Here it is expected a rousing all day meeting will take place on July 23 by reason of the numerous contractor dealers located in this territory, which also is in the Pacific Division.

Portland.—From San Francisco the party will go to Portland where another all day meeting will be held on July 25. A large number of contractor dealers of the Pacific Division north will probably be in attendance.

Seattle.—Leaving Portland on the morning of July 26 the party intends to arrive in Seattle in time for a dinner meeting on the same day, and all of the northern part of the Pacific Division who cannot attend the meeting in Portland are urged to be at this one.

Vancouver.—On July 27 the party is expected to arrive in Vancouver in time for a luncheon and afternoon meeting. This will be known as the Western Canadian Division convention, but contractor dealers in provinces outside of Vancouver may find it more convenient to attend the meetings following in Canada.

Calgary.—The return trip from Calgary will be made by President Strong alone, as Mr. Davis will carry on a follow up work back from Vancouver for a period of several weeks. Arriving at Calgary on July 30, a dinner meeting will be held, after which departure will be made for Moose Jaw.

Moose Jaw.—A dinner meeting will be held at Moose Jaw on July 31.

Regina.—On the following day, August 1, a luncheon meeting will take place at Regina.

Winnipeg.—A luncheon meeting will take place at Winnipeg on August 2.

Minneapolis.—A luncheon meeting will be held in Minneapolis on August 3 and a dinner meeting that evening in St. Paul.

St. Paul.—On August 3 a dinner meeting will be held in St. Paul where the trip will officially end, President Strong leaving at midnight for New York.

Davis in Greater New York

During April Laurence W. Davis of the Association of Electragists directed a large part of his efforts to field work in and around New York City. Previous to this time his efforts in the matter of field work had been given over almost entirely to territory outside of the great metropolis.

On April 5 he addressed a meeting of the larger contractors known as Association Number One. Many of the foremost estimators in the country were in attendance to hear the special representative describe the use of the Manual of Estimating recently issued by the A. E. I. It was the sense of this meeting that the Manual be universally adopted as a guide in the figuring of hours of labor in installation work and the other methods of estimating costs in electrical work.

A meeting with the Electric Club of Brooklyn was held on April 9. In addition to presenting the Manual of Estimating Mr. Davis made an analysis of the cost of doing business and

pointed out by means of a blackboard how electrical contractors and dealers often lose money by overlooking in their figuring the determining factors of overhead, turnover, etc.

As a result of this meeting practically all members of the Brooklyn Club signified their desire to join the International Association. Officers of the Club are as follows: W. J. Shannon, president; D. M. Carr, vice president; H. W. Bishop, treasurer; and A. Stone, secretary.

The members of the Independent-Associated Association of Electrical Contractors, the largest local organization of the kind in the country, arranged a meeting for Mr. Davis on April 11 at their meeting rooms, 226 West 38th Street, New York City. The significant fact of this gathering was that it took from almost nine o'clock in the evening until midnight to cover the field of discussion aroused by the presentation of the Manual of Estimating and the Cost of Doing Business. All were unanimous in their praise of Mr. Davis' work.

On April 26 a meeting of the Bronx Electrical Contractors' Association was held at Loeffler's Hall in that borough. The Manual of Estimating was again presented as well as the Cost of Doing Business.

Arrangements have been made for a big meeting with the Electrical Contractors' Association of Brooklyn and Queens on Wednesday, May 2. The meeting will take place in the meeting rooms of the Brooklyn Chamber of Commerce Building, and will be preceded by a dinner given to Charles L. Eidlitz, the new commissioner. Prominent members of the officers and board of governors of this Association are: D. Davidson, Frank A. Libbon, Hugo Tollner, H. F. Walcott, M. Tannenbaum, Chas. A. Soper, Joseph Frankfort, L. Kalischer and Jacob Greenblatt.

Midwest Meetings

At a meeting of the Electric Club of Des Moines on April 6 Arthur P. Peterson, midwestern field representative of the Association of Electragists, demonstrated the use of the Manual of Estimating and illustrated the correct method of arriving at the bidding price on a typical job.

Previous to this meeting Mr. Peterson met with the electrical interests in Kansas City on April 3 at which he outlined the work of the Association. On April 4 he held a meeting at St. Joseph and although a big meeting

could not be arranged for on account of the lack of time those who were in attendance derived profit from the field representative's message.

Mr. Peterson held a meeting of electrical interests at Winnipeg, Manitoba, on April 26, and as this gathering had been prepared for several weeks in advance an interesting and enthusiastic occasion resulted. The field representative gave a most complete analysis of the Cost of Doing Business which was thoroughly enjoyed.

Cleveland Contractors Met

An attempt was made on the night of April 3 to get every electrical contractor in Cleveland, with his employees, under one roof for a general discussion of their problems. The occasion was the first general smoker of the Electrical League of that city staged by the members of the contractors' section.

George P. Fuerst of the Harrington Electric Company was in charge of the program, and members of the committee to assist him included: H. N. St. Clair, General Electric Company; J. T. Kermode, Illuminating Company; George N. Seiss, Western Electric Company; and John V. Becka, Electric Construction & Sales Company.

A special handbook on wiring suggestions designed by the committee on public information of the contractors' section of the League soon will be issued. Compiled especially for the use of architects it contains many suggestions covering wiring installations heretofore ignored by the building fraternity.

Chicago Meetings

At the regular meeting of the Electrical Contractor-Dealers Association of Chicago on March 28 Laurence W. Davis, director of promotion and development of the Association of Electragists, gave a talk on the Manual of Estimating illustrating it by means of charts. L. D. Grey, president, presided, and included among the attendants was a large number of estimators.

On April 2 Mr. Davis met with the members of the Master Electrical Contractors' Association of Chicago in order to bring to them his analysis of the cost of doing business. So much interest and enthusiasm was displayed on the subject that it was long after midnight before the meeting adjourned, and a cordial invitation was extended to Mr. Davis to address the meeting again in

the near future. President A. H. Conn presided.

Wilkes-Barre Interests Meet

A meeting of the local organization of electrical interests was held in Wilkes Barre, Pa., on March 20. Frank E. Baldwin presided and about eighty members were present. A special car came from Scranton bringing twenty-five electragists and other contractor-dealers.

Laurence W. Davis was in attendance from A. E. I. Headquarters to make the principal address of the evening. As his topic he used "The Cost of Doing Business," and centered his remarks on the importance of overhead and turnover. Mr. Davis reported about a dozen new members for the International Association as a result of this meeting.

Indianapolis Electric Home

A completely equipped electric home will be opened to the public in Indianapolis on May 12. Private demonstrations to the respective contributors will be given on the day preceding. All interests are busily engaged in arranging for the opening date and the electrical men are doing their full share of the work. Details of the exhibit are not available as this issue goes to press and will be published in the next number.



M. Nash, Proprietor of the Nash Electrical Supply Company, Albuquerque, N. M., Made This Window Emblem Before He Knew About the Decalcomania Signs at Headquarters, But He Will Want One or More of These as Soon as They Are Ready for Distribution to A. E. I. Members.

Welcomes Commerce Men

New York business men will extend a warm welcome to the members of the United States Chamber of Commerce when that body convenes for its eleventh annual meeting in the Hotel Astor on May 8. May 7 will be devoted to a meeting of the national councillors.

The Association of Electragists will be ably represented by National Councillor L. K. Comstock of New York, and others. A large volume of important business is expected to be transacted, but in addition to the business sessions there will be many attractive entertainment features. The convention will close on the 11th.

Better Homes Week

According to advice from the American Homes Bureau in Chicago under whose auspices the movement is carried on Better Homes Week will be observed from June 4 to 10. Opportunity to cooperate in this movement is extended to all concerns having anything to do with the equipping, furnishing, or decorating of the home.

Rocky Mountain Convention

Employees, associates and friends of members of the Rocky Mountain Electrical Coöperative League all were invited to attend an all day meeting of that organization on April 6, known as the second annual convention.

The principal speaker was Sidney W. Bishop, executive manager of the Electrical Coöperative League of Denver, whose topic was "Coöperative Organization As It Affects the Electrical Industry." Other prominent addresses were given on "Commercial Values of Proper Window Illumination," "Calculation and Window Lighting Layouts," "Use of Color in Window Lighting," including a demonstration of a properly illuminated display window. Music was furnished by the Salt Lake Aerial Quartet.

Meet With Realtors

A joint meeting of the Electrical League and a body of realtors was held in Denver on April 18. Electrical men did themselves proud in the matter of attendance and a goodly number of realtors also were present. The meeting in the Real Estate Exchange was known as Electrical Day, and the program was under the direction of the Denver League.

Allentown Has Big Show

Thousands visited the Lehigh Valley Electric Show held at Allentown, Pa., in the Manhattan Auditorium, April 3-7, to see the great display of electrical appliances shown under the auspices of the Lehigh Valley Electrical Contractor-Dealer Association. It was the second annual affair.

The show in no wise could be termed exclusively an Allentown event. Exhibitors came from all points of the state, Philadelphia and Pittsburgh being especially well represented. Visitors were in attendance from distant places as far away as Easton and Mauch Chunk.

All members of the family were appealed to by the exhibits. The men naturally turned to the industrial devices while the women folk inspected household appliances, and the youngsters devoted their attention to radio apparatus.

Consistent advertising was carried on in many forms by the various electrical and allied interests during the show. Whole page spreads in local newspapers were taken by the most progressive contractors and dealers, who received the most direct benefit from the exhibition.

The electrical boys had many enjoyable parties during the four days—and nights—of the show. State Chairman Bob Keck in extending hospitality to out of town friends was perhaps the chief offender in this respect. For two days he had as his guests various members of the Contractor-Dealer Associations from the cities of Wilkesbarre, Scranton, Philadelphia, and other places.

New Electric Club Formed

It is announced that the leading electrical contractors of Brooklyn have formed an organization to be known as The Electric Club of Brooklyn. The body is incorporated and has the following aims and purposes:

Fostering trade or commerce for the interests of those having a trade, business, financial or professional interest in the electrical industry; to reform abuses relative thereto, and to secure freedom from unjust or unlawful exactions; to diffuse accurate and reliable information as to the standing of merchants or other matters; to procure uniformity and certainty in the customs and usage of trade or commerce; and of those having a trade, business, financial or professional interest in the electrical industry.

To settle differences between members, and to promote a more enlarged and friendly intercourse between business men of the electrical industry—and to enjoy as a corporation every right and privilege whatsoever to the fullest extent, pursuant to and in conformity with acts of the Legislature of the State of

New York, relating to Membership Corporations.

According to A. Stone, secretary, it is the earnest desire of this body to work harmoniously with other associations in the industry on all electrical matters of common interest.

Electrifying Arkansas

The city of Little Rock, Ark., has joined whole heartedly in the Electrify movement of the Joint Committee. The coöperation of the non electrical interests in the city has been secured, and the local Chamber of Commerce is actively participating.

Foremost in the movement in the Arkansas city is the Little Rock Electric Club, which is made up of the jobbers, contractors and dealers of the city, and their associates, together with officials of the Little Rock Railway & Electric Company and the Southwestern Bell Telephone Company.

Poster boards have been erected in Little Rock and vicinity urging the public to Electrify, and the contractors and dealers have arranged their windows to tie in with the changes of the posters. The daily newspaper advertisements are also prepared with reference to the particular poster on display at the time, and in each advertisement the word Electrify is featured, together with the name of the club. Cards are placed in the show windows of members of the club announcing that they belong to the organization.

A. D. McConnell is president of the Electric Club, and Rex I. Brown is secretary.

Exhibits Electric Store

Early in April a model store was exhibited to the people of Cleveland as an example of the correct method of illuminating window fronts, interiors, and show cases. Upwards of five thousand merchants of Greater Cleveland were invited to inspect it through the lighting section of the Electrical League, under whose direction it was promoted.

The interior of the sales room was a combination of all varieties of retail stores. The show cases, lighted according to the very latest standards adopted by illuminating engineers, displayed men's and women's apparel, candy, cigars, hardware, and other articles of merchandise. Many color effects showing the sales possibilities of lighting were demonstrated.

This is thought to be one of the most spectacular exhibits ever attempted by

the League. A huge electric sign attracted attention of passersby during the night, and by being located in the heart of the downtown part of the city the store was seen by the majority of business men.

Philadelphia Exposition

A civic and industrial exposition known as the Palace of Progress will be held in the Commercial Museum, Philadelphia, from May 14 to 26. The exposition will celebrate the 240th anniversary of the founding of that city, and will represent the city's civic and industrial advancement.

Included among the firms which will exhibit electrical appliances such as washing machines, vacuum cleaners and fixtures, are: Troupe Electric Co., Ambrose Diehl Electric Co., F. J. Saylor Co., Voight Co., Emery & Son, Abso Clean Sales Corp., and the Vital Sales Co.

Minimum Wiring Standard

The committee appointed by President James R. Strong of the Association of Electragists, as a result of recommendations made at the recent Executive Committee to study the subject of a minimum house wiring standard, met at the Engineers' Club, New York City, on April 11. A report was prepared to be submitted by the president to the executive committee of the Joint Committee for Business Development through which body the matter was originally brought up.

Members of the committee present were as follows: W. Creighton Peet, New York City, chairman; John F. Buchanan, Philadelphia, formerly A. E. I. Housewiring Committee chairman; M. S. Blumberg of Oberg, Blumberg & Blayer, New York City; Paul Jaehnig, Newark; President Strong and Secretary Johnson of the A. E. I. E. S. Francis of Hartford, Conn., appointed as a member, was unable to attend.

Presages Year of Progress

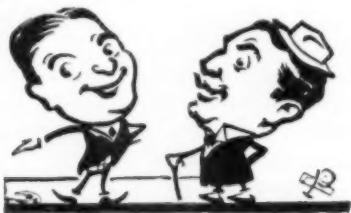
Kenneth A. McIntyre of the field staff of The Society for Electrical Development has returned to headquarters from a nine thousand mile trip during which he visited some eighteen cities.

Mr. McIntyre reports that he was accorded the privilege of assisting in the formulation of business development plans projected by electric leagues in practically all the communities included in his tour. He looks for a year of

progress in coöperative work that will be of lasting benefit to every branch of the industry.

Electracourting Culture

News of Mr. Mosley's Electrabode in Montgomery, Ala., spread like the proverbial wildfire and as soon as the electrical poet, C. L. Funnell, heard about it he sat down and electroversed a few thoughts on the subject for *Electrical Merchandising*, through whose courtesy they are here printed:



It seems that in our chosen line
We have advanced so fast
That our profesh got rude and fresh
And savants stood aghast
To hear our wiremen and our clerks
Defile their speech with slang.
We had, alas, no trace of class;
We were a low-brow gang.

Then said the scholars in our midst:
"If we entwine each term
Our people speak with roots of Greek
We'll make our culture firm."

Last night I went to buy a fuse
In Jim McDougal's store.
"How's business, Jim?" I said to him,
And Jim replied: "No more

Do cultured folks refer to biz,
We do, in modern code
ELECTRAGY," says Jim to me,
"In this ELECTRABODE."

"Well, how's the wife?" I then inquired.
"She's fine. But don't forget:
The jane I love is spoken of
As my ELECTRAGETTE."
Just then a young ELECTRACLERK
ELECTRACARELESSLY
Let something go upon his toe.
"ELECTRAHELL!" said he.

And thus ELECTRACULTURE spreads
Through all the words we speak,
And to exist, each 'LECTRAGIST
Must know ELECTRAGREEK.

Date Set For New York Show

The New York Electrical and Industrial Exposition will be held at the Grand Central Palace, New York City, from October 17th to 27th. This will be the sixteenth annual exposition, and as each previous show has been an improvement in size, character, and public interest over its predecessor, this year's exposition it is expected will surpass last year's efforts.

Public interest in things electrical has never been greater, in the opinion of Lincoln Bancroft, general manager. This interest in things electrical includes not only heating and cooking de-

vices, the various newer and other uses of electricity in the home, but also the economical development of manufacturing processes, electrical transportation, and factory handling apparatus.

It is the plan this year to devote the first floor to radio apparatus and domestic household appliances. The second floor will be given over to electric vehicles, industrial trucks and accessories, industrial heating appliances, electrically driven machinery, electric signs, and refrigeration.

In coöperation with the government there will be a number of government exhibits of an unusually interesting

character, which will completely cover the third floor.

Electric Truck Show

The annual New York Electric Truck Show, to be held during the week of June 4th in the Irving Place showroom of The New York Edison Company will include exhibits by all the manufacturers represented in the Metropolitan territory. This is the week of the annual convention of the National Electric Light Association, one session of which will be devoted to electric truck discussions.

MOSLEY'S "ELECTRABODE" A Better Electrical Home

*Located In the Heart of the Residential District
For Your Convenience*

7 Noble
Ave.,
Next to
Perry
Street
Methodist
Church



No
Farther
From You
Than
Your
Phone.
Call 706

Frank M. Mosley, pioneer electrical engineer of Montgomery, whose work during the past 28 years has truly "stood the test of time"—now conceives a clever new idea in "The Electrabode." Being out of the high rent district will enable him to figure more closely on electrical work. A large and complete stock of electrical fixtures are on display—the easiest place to trade electrically—try it!

You are invited to come view this new idea—it's a pleasure to show as well as inspect this wonderful stock of—

Electric Fireless Cookers, Electric Water Heaters, Chandeliers, Accessories and Appliances of all kinds.

Plenty of parking space for your car, which will enable you to transact your business and get home in less time than would take you to find parking space down town. Pay us a visit.

Mosley Electric Co.

"The Electrabode"

7 Noble Avenue

Phone 706

Proprietor Frank M. Mosley of the Mosley Electric Company, Montgomery, Alabama, Will Tell You it Pays to be an Electragist and He Has Gone us One Better by Calling His Business an Electrabode. This Advertisement, Greatly Increased in Size, Was Recently Run in a Leading Newspaper of the City

Convention Dates

A catalog of convention dates for May and June compiled by The Society for Electrical Development is as follows:

May

- 8-9-10—Annual Meeting National Fire Protection Association, Drake Hotel, F. H. Wentworth, Sec'y, 40 Central St., Boston, Mass.
- 15-16-17—Southwestern Public Service Association, Fort Worth, Texas. (Formerly Southwestern Electrical & Gas Assn.). E. N. Willis, Sec'y, 403-4 Slaughter Bldg., Dallas, Texas.
- 21-22—Electrical Supply Jobbers' Association (Executive Committee) The Homestead, Hot Springs, Va. Franklin Overbagh, Sec'y., 411 So. Clinton St., Chicago, Ill.
- 23-25—Electrical Supply Jobbers Association (General Meeting), The Homestead, Hot Springs, Va. Franklin Overbagh, Sec'y., 411 So. Clinton St., Chicago, Ill.
- 25-26—Missouri Association of Public Utilities Aboard Steamer Harry C. Drees from St. Louis, Mo., to Peoria, Ill.
- 28—June 2nd, 1923—Westinghouse Agent-Jobbers' Association, The Homestead, Hot Springs, Va.

June

- 4—Electrical Motor Truck Show, New York, N. Y. C. R. Skinner, Sec'y, care New York Edison Co., Irving Place and 15th St., New York, N. Y.
- 4-8—National Electric Light Association, Hotel Commodore, New York, N. Y. M. H. Aylesworth, 29 West 39th St., New York, N. Y.
- 11-14—Electric Power Club, The Homestead, Hot Springs, Va. S. N. Clarkson, Sec'y, Kirby Bldg., Cleveland, Ohio.
- June 16th to Sept. 8th—Home and City Beautiful Exposition (Auspices The American Home and City Beautiful Association), on the Million Dollar Pier, Atlantic City, N. J. A. Conrad Ekholm, Gen. Mgr., Million Dollar Pier, Atlantic City, N. J.
- 19-22—Pacific Coast Electrical Association, San Francisco, Cal. (Fairmont Hotel). S. H. Taylor, Sec'y, 527 Rialto Bldg., San Francisco, California.
- 21-23—Canadian Electrical Association, Montreal, Quebec, Canada. Louis Kon, Sec'y., 65 McGill College Ave., Montreal, Quebec, Canada.
- 26-27-28-29—National Council Lighting Fixture Manufacturers (Midyear Meeting), Homestead Hotel, Hot Springs, Va. Chas. H. Hofrichter, Bus. Mgr., 231-233 Gordon Sq. Bldg., Cleveland, Ohio.
- 26-29—American Institute of Electrical Engineers (Summer Convention), Swampscott, Mass. F. L. Hutchinson, Sec'y., 33 West 39th St., New York, N. Y.
- 27-30—Northwestern Electric Light & Power Association, Seattle, Wash. (Annual Convention). G. E. Quinan, Sec'y., Puget Sound Power & Light Co., Seattle, Wash.

Manufacturer Advertising

The following letter was received from Chas. J. Kass, sales manager of P. Simpson, Inc., 135 West 116th Street, New York City, relative to the value of consumer advertising on the part of the electrical manufacturer:

As a constant reader of the NATIONAL ELECTRAGIST, I should like very much to make a suggestion.

I have been associated with the electrical industry for the past ten years. It occurred to

me, that while the ELECTRAGIST and other electrical publications are intensely interesting and of vital importance to the manufacturer, jobber, and electrager, these issues do not reach the consumer or layman.

How about the housewives and all the owners of houses that are wired for electricity?

At present I am managing the sales department of a large New York retailer. I have found, through sales experience, that 50 per cent. of the housewives do not know that there is such a thing as an electric hot water bag, or what is known as an electrical heating pad. The majority of these housewives are under the impression that an electric iron, vacuum cleaner, ironer, washing machine, or any electrical household utensil is very expensive. They do not consider, because they do not know, that the above devices are practical time savers, inexpensive in the long run, and in all ways superior to the old method of doing housework.

Why can't we teach them? Why depend only on the canvasser or the retail store? How is it that through all these years I have never seen any electrical apparatus advertised in any public utility—the subway, elevated trains, street cars, buses, etc.? Why aren't electrical appliances displayed on attractive posters and billboards, as are numerous other products?

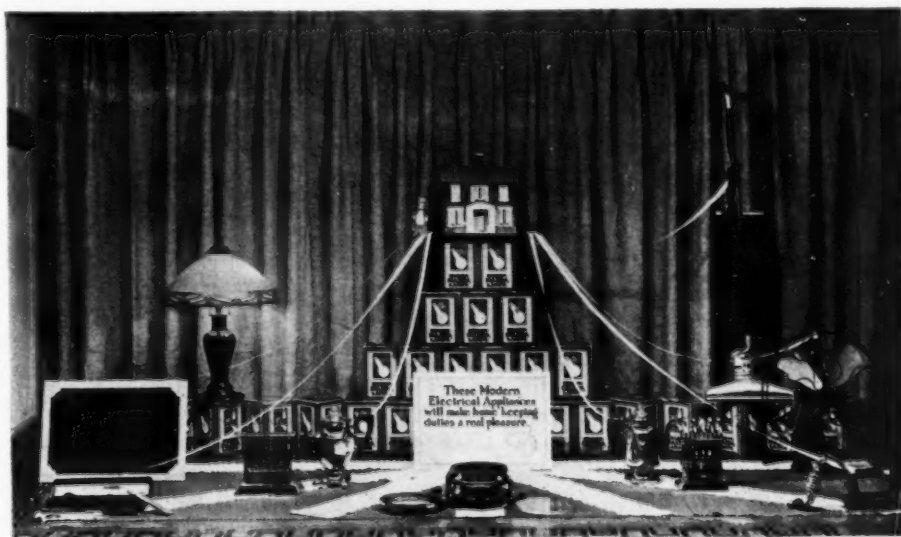
Do the manufacturers realize that if they were to advertise an electric iron widely, explaining the mechanical features and its economy as compared to the old gas iron, for instance, it would undoubtedly increase considerably the demand for electrical appliances, and automatically thereby increase the consumption of electric current?

Don't you think that if the manufacturer, as well as the distributor, would start an electrical appliance advertising campaign for the consumer, as suggested above, that it would be the quickest way to reach those to whom we are catering—the housewife?

I would appreciate the views of the readers of the NATIONAL ELECTRAGIST on the foregoing.

S. E. D. Annual Meeting

The annual meeting of The Society for Electrical Development, Inc., will be held Tuesday, May 8th, at staff headquarters, New York City. Action will be taken on a resolution to increase the number of directors from twenty-four to thirty.



Display Manager E. F. Newkirk of the Edison Lamp Works is a Man of Ideas and Electragerists Will Find it Profitable to Duplicate Such Trims as This One Which He Arranged to Set Forth Appliances as Well as Lamps

vidual firms; (2) by societies and associations; (3) on a national scale; (4) on an international scale.

Taking the Janitor's Job

Despairing furnace tending husbands crowded the Power Show in the New York Edison showrooms from April 2 to 7 to corroborate reports that an almost human device is far better than they at keeping a balky furnace in operation. And they went away satisfied that at last fussless, fumeless, and furyless furnace firing is a reality and not the fantastic dream of a weary man bending disconsolately over a grimy furnace that refuses to behave under his guidance.

They were convinced through actual demonstrations that the apparatus stokes the fire, regulates the draft, and removes the ashes without human assistance. A diminutive one-eighth horsepower motor was used.

Club Cooks Electrically

One of Boston's well known social clubs serves afternoon tea every day between five and six. A table is set out with the tea, toast, muffins, marmalade, and other dainties to meet the individual tastes of the several members.

At first there was difficulty in keeping the tea hot and also in having the toast and muffins warm. This problem was solved, however, by providing a large hot water pot in which the water was kept just simmering by electricity.

Shortly after a toaster was added on which the toast was made when required at the table and served piping hot. Even so, if three or four men wanted tea at the same time some one had to wait. So necessity led to another electric appliance.

Then a big electric chafing dish was put on the table; one of the kind in which the heat goes into the hot water, and the chafing dish pan itself is on top of the water. This made it possible for the attendant to make a few pieces of toast, heat some muffins and put them in the chafing dish. By covering them over they are kept warm and as fast as they are called for, more are made so that there is substantially no waste in making more toast or toasting more muffins than are needed.

With the three devices three cords were needed from the wall to the table and these were found to be in the way. Then someone suggested that the table itself be wired, and now one big heavy cord goes from the wall to the leg of

the table while the appliances are connected to convenience outlets on the side of the table—Electrically equipped furniture put to a real use.

The idea found great favor among the members of the club, who began making quite a boast of the way tea was served at their club. Members of other organizations are often brought around, and the club has built up a reputation. Needless to say the idea soon spread and other Boston clubs have since adopted the same general plan.

League Helps School Board

Arrangements have been made with the school board to check all wiring layouts for the new schools shortly to be built in Denver, according to Sidney W. Bishop, executive secretary of the Electrical Coöperative League of that city. To insure completeness this action will be taken before plans are turned over to contractors for bidding.

Improvements have been made in the wiring of several old schools and help is being given in the equipment of the model home at one of the schools, where electricity is being made to play an important part in the domestic science classes.

A new departure in the educational program of the Denver League was the demonstration to the pupils of a city school by the executive manager recently of proper wiring for a model home. Convenience outlets, switches, fixtures, appliances and lamps were demonstrated.

Builds New Warehouse

The General Electric Company has announced the completion in Atlanta, Georgia, of a four story reinforced concrete warehouse, equipped with all facilities for prompt and efficient handling of orders. The initial building has a floor space of 64,000 square feet, and provision is made for later increase to 100,000 square feet as conditions warrant.

The warehouse is located on the Southern Railroad with an inside car siding, inside motor truck pits with electric cranes operating over the pits. There will be carried in this warehouse a complete stock of staple lines such as motors and accessories, meters, transformers, incandescent lamps, wiring devices, wire and cables and street lighting materials.

On the same property the company has also erected a modern steel and

brick constructed service shop, with a floor space of 10,000 square feet. This shop is equipped to provide for prompt service in the repair of electrical apparatus.

Second Edition E.M.F. Book

The second edition of the E.M.F. Electrical Year Book, just published by the Electrical Trade Publishing Company of Chicago, is a complete revision of the original edition, but without departure from its scheme of including in one big volume a complete dictionary, encyclopedia and trade directory of the electrical industry. All of the 20,000 or so topics are arranged in one continuous alphabetical series, making it a very convenient as well as useful reference book. Nearly half of the original topics were entirely rewritten or radically revised, and several thousand new topics were added. Thousands of cross references were also added to make it still easier to find any topic regardless of the title under which it might first be sought.

In the dictionary feature are many thousand definitions of practical as well as technical electrical words, terms, and abbreviations. Among the encyclopedia topics are facts and current figures about each branch of the industry, about the leading lines of electrical development, and the chief groups of equipment. There are numerous lists with interesting data about the electrical associations, periodicals, schools, libraries, and laboratories. Among other topics are nearly 100 biographies of electrical inventors and scientists, items on electrical codes, patents, trade activities, etc. One of the most useful features of the book is that constituting the trade directory of electrical manufacturers and their products. The latter are divided into about 3,150 classifications, for each of which there is a definition followed by an unbiased list of manufacturers. There are also over 5,000 separate entries giving information under the manufacturer's name and under some 5,000 trade names.

A staff of thirty-six contributing editors, each a specialist in his line, prepared the more technical topics. All of the editorial work was under the general supervision of F. H. Bernhard. The new book is an attractively bound large volume, 9 by 12 inches in size, with a total of about 1,230 pages, of which 1,030 constitute the main alphabetical text. It should prove of much value to electricians in quickly locating

information often needed by any of their departments, whether in installation, merchandising, or maintenance work. Supplementary service is also offered by the publishers for the subscription price of the book, which is \$10.

To Give Electrical Courses

Courses to interest nearly anyone in need of technical training will be given this summer at Carnegie Institute of Technology, at Pittsburgh, according to a preliminary announcement. The variety of the subjects has been increased by the addition of many new courses, and special emphasis will be placed on the courses that have been outstanding successes of former years.

The Carnegie Summer School will open June 25 and continue for eight weeks until August 17. Six weeks' courses will be conducted from July 2nd to August 10th. The College of Fine Arts, the College of Engineering, the College of Industries, the Margaret Morrison Carnegie College, and the Division of General Studies are included in the summer program.

Of special interest to the readers of this magazine are the electrical courses offered in the College of Industries. The scope of the work to be given includes elementary electric wiring, advanced electric wiring, elementary principles of electricity, and direct current machinery. Many other subjects in the Industries College, and in the College of Engineering will be of interest to men feeling a need for more technical training in their respective fields of work.

Mortgaging Your Reputation

O. Fred Rost, manager of the Newark electrical Supply Company, said that someone recently showed him a push button switch sold in large quantities in that territory. "Yes, it looks like a switch," commented Mr. Rost, "if properly manipulated it acts like a switch, and if carefully used and used but little, it may even stand up for a few months." He continued:

"However, it is only a question of a short time when it will give trouble, and will require replacement. The switch costs but a few cents less than a first quality article. It certainly costs as much to install, and in the average house there are not enough of them used to make a total difference in the cost of all the switches of more than \$1 between the cheap junk and the same number of quality switches. Yet, for the measly dollar some contractors are

selling their reputation and mortgaging their chances for success.

"Using quality material in your wiring installations guarantees you satisfied customers, and on satisfied customers are built the largest business establishments in the country. Why use cheap wiring material when the best quality costs but little more?"

A Certified Member

As soon as the electragerist, Gross & Gross, Newark, N. J., received the license certificate from Association Headquarters it told the world it was authorized to use the trademarked term as follows:

Certified Member

Gross & Gross

25 SO. ORANGE AVE.
NEWARK, N. J.

Not a bad idea, eh? The announcement was most prominently displayed on the first page of the folder setting forth the meaning of Electragerist for distribution to the public.

April Fooling 'Em

The Star Electric Company of Detroit, Minnesota, pulled off a clever advertising stunt on April Fool Day. Proprietor Charles Wood believes the idea as effective in developing actual sales and goodwill as it is novel, and passes it on to others in the industry.

Inscribed in large display type on a letter size envelope were the words: "This is an April Fool Joke—Don't

Open It!" Of course a more potent urge for recipients to open the envelope could not have been written. These envelopes were distributed to every house and business place in town.

On opening the envelope the reader was confronted with a letterhead of the company on which was explained in the same display type which appeared on the envelope: "It is an April Fool Joke," with the message as follows:

To take your rugs out and beat them when you can clean them right on the floor with a vacuum cleaner.

To wash your clothes on the old wash board when an electric washer will do the work in half the time.

To do your ironing in the old way near a hot stove when you can do it the cool way with an electric iron.

To use old drop cords in your home when you can have modern lighting fixtures.

To have empty sockets in the house when we carry a full line of electric lamps.

To do your own wiring when you can have it done the best way at the best price by the

STAR ELECTRIC CO.

PHONE 91

An attractive folder setting forth a popular electric cleaner was enclosed containing the dealer's imprint.

New Society Booklet

"Sweep No More My Lady" is an 8 page illustrated booklet on cleaning electrically, produced by The Society for Electrical Development in conjunction with the Joint Committee for Business Development. It tells the story of electric cleaning in a breezy, entertaining style and will be invaluable as a mail piece suitable for use by manufacturers, jobbers, dealers and central stations with retail departments.

Electragerist Promotion

Representatives of the Hartman Electric Construction Company of Scranton gained all kinds of promotion for that company through the use of the trademarked word Electragerist at the recent electric show in that city.

So taken with the term were the newspaper reporters that in writing an account of the show they spoke of the Hartman booth as a "Mecca for wives" and that the display of that electragerist



March Wind Had no Terrors for New Yorkers Who Were Able to Get in Front of the Heat Rays From This Giant Electric Sunbowl. Many Radiant Heater Sales Were Created for Electragerists by This Ingenious Display in the Window of the New York Edison Company

was a "wife saving station." The account said that this booth was one of the busiest in the Armory, its location was given, and the devices exhibited described. As to the use of the devices it was said that they help make the home more comfortable and more beautiful.

Atlantic City Exposition

Electric Home to be Featured at Exhibit Open for Twelve Weeks in June

An electric home will be featured at the exposition of the American Home and City Beautiful Association to be held on the Million Dollar Pier, Atlantic City, for a period of twelve weeks from June 16 to September 8. The successful showing of the electric home last year has encouraged this Association to stage a more beautiful exhibit this year.

It is felt that an electric home shown in Atlantic City under these auspices at such a time will go far to educate the buying public of the better class to the value of using things electric. The exhibit will be under the direction of A. Conrad Ekholm, exposition manager, who is a former president of the Avenue Hotel Association of Atlantic City, and a director of many similar expositions.

Last year the electric home was visited by several hundred thousand people from all parts of the country. Many times during the day admission had to be checked to relieve congestion. As many as three thousand visitors per hour being conducted through the beautiful house, and more than this number could not be handled advantageously.

All of the exhibit floor space of the Million Dollar Pier, America's largest and finest exhibition structure, in excess of 100,000 square feet, has been engaged for this exhibit, which in addition to the electric home exhibit will be devoted to eight principal groups with allied classifications, as follows: Public and private buildings, materials, equipments and furnishings; the garden, seeds, accessories and supplies; art, sculpture and ornaments, musical instruments and reproducers; The City Beautiful, embracing municipal improvements, hygiene, sanitation and accident prevention; pure food products, confections and beverages; recreation, athletics, resorts and travel information to boost the Seeing America First movement; and an important section will be devoted to Wireless Wonders, showing radio in all practical amplifications.

To Hold Building Show

An exposition known as the National Exposition of Building Ideas is to be held in conjunction with the National Convention of Real Estate Boards from June 25 to 30. The various committees are making every effort to see that this national exhibition of building ideas is of educational value as well as being interesting to the entire building industry.

All classes of building material used in the construction of both domestic and commercial buildings will be on display. The official floor plan of Cleveland's new public auditorium, in which city and at which place the exposition will be held, calls for one hundred and forty-four exhibit spaces, with the center of the big arena floor reserved for a feature educational exhibit.

In addition to all national associations affiliated with the building industry prospective home builders will be invited to attend. It is felt that a broad education may be secured by individuals interested in the construction, furnishing and equipping of buildings.

The Cleveland Real Estate Board, composed of twelve hundred members, is supporting the exposition committee, and Thomas P. Convey whose address is the Swetland Building is acting as business manager.

Employee Association Formed

The employees of the Georgia Railway & Power Company, Atlanta, Ga., have organized an association known as the Power Club, and have elected F. A. Brine president. The objects of the organization are to foster and promote the interests of its members through association; to encourage their active participation in amusements, athletics, and other educational and helpful activities, and to work for their mutual happiness and advancement.

The officers of the club, in addition to Mr. Brine, are: W. P. Bellinger, vice president; W. H. Wright, secretary; Miss Gladys Hicks, treasurer. An executive committee to act as the governing body of the organization is made up of C. G. Adsit, F. L. Butler, Harry Flynn, L. K. Starr, Jackson P. Dick, W. H. Pittman, Paul D. Reid and Miss Ruth Morris. The bylaws provide for seven standing committees, as follows: Educational, program, library, membership, publicity, service and athletic.

The Greatest Producer

The Commonwealth Edison Company of Chicago last year led the United States in the production and distribution of electrical energy, surpassing the great hydro electric development of the Niagara Falls Power Company.

News Notes Concerning Electrical Contractor-Dealers

Business Changes, Store Improvements, and New Establishments Opened

Hall Electric Corporation, an old established concern, is conducting an electrical supply business at 2315 Delaware Avenue, Buffalo, New York.

Peterson Electric Shop, Fourteenth Avenue and Eighth Street, Rockford, Illinois, will enlarge stock of electrical supplies and appliances.

Electric Household Shops, Incorporated, has established headquarters at 4806 Pabst Avenue, Milwaukee, Wisconsin. Incorporated capital, \$10,000.

Sanford Electric Company will feature an extensive line of electrical supplies at Ontario, California. Incorporated capital, \$10,000. Incorporators: C. E. White, Long Beach, California, and others.

Wesco Company, Incorporated, is open for business at 642 Lawrence Street, Denver, Colorado, where a full line of electrical supplies will be carried.

A. A. Hanig Electric Company will move to 896 East Market Street, Akron, Ohio. Formerly located at 31 North Arlington Street, Akron. Estimated worth of concern, \$10,000.

Memphis Elevator & Electrical Company is reported to have opened an electrical supply business at Memphis, Tenn. Incorporated capital, \$10,000. Incorporators: J. L. Gray, 323 Carroll Street, Memphis, and others.

Commercial Electric Company has established headquarters at South Bend, Indiana, where a complete line of electrical supplies will be handled. Incorporated capital, \$10,000. Incorporators: Fred S. Lewis and others.

Moore Electric Company, Century Building, Chicago, Illinois, will locate at the Seaberger Building, Chicago, around the first of May.

Merrick Electric Company is conducting an electrical supply business at Queens, New York. Incorporated capital, \$10,000. Incorporators: Ator-

ney T. Breiling, Hollis, Long Island, and others.

Spott Electrical Company has located at 2155 Broadway, Oakland, California, where an electrical supply and contracting business will be conducted. Estimated worth of concern, \$10,000.

Federal Radio Company of which J. E. Donaldson and J. D. Eckles are proprietors, will feature an extensive line of radio supplies at Nineteenth and Harney Street, Omaha, Nebraska. Estimated worth of concern, \$10,000.

Corin Electric Corporation has opened an electrical supply store at 264 West 28th Street, New York City. Incorporators: Attorney S. Levine, 1540 Broadway, New York City, and others.

Edward P. Fogarty Electric Company will conduct an electrical supply business at 2021 Marquis Street, Cincinnati, Ohio. Incorporated capital, \$15,000.

Buchanan-Smith Electric Company has established headquarters at Philadelphia, Pennsylvania, where a complete line of electrical appliances will be carried. Incorporators: Gilbert S. Smith, 69th Avenue and 10th Street, Philadelphia, and others. Incorporated capital, \$20,000.

Chickasaw Electrical Appliance Company will conduct an electrical supply business at Memphis, Tennessee. Incorporated capital, \$20,000. Incorporators: S. M. Jackson, Waldran and Court Streets, Memphis, and others.

S. D. Moran & Sons, in the electrical supply business at 132 North Michigan Street, South Bend, Indiana, will open a branch store at 118 South Main Street, South Bend.

Mercantile Radio Company will locate at San Francisco, California, where an extensive line of radio supplies will be featured.

Trent Electric Company has established headquarters at 804 Lincoln Building, Philadelphia, Pennsylvania. Incorporators: C. Wilfred Conard, Lansdowne, Pennsylvania, and others. Incorporated capital, \$20,000.

White Radio Company, Incorporated, will handle a complete line of electrical and radio appliances at Newark, New Jersey. Incorporators: B. Singer, 763 Broad Street, Newark, and others. Incorporated capital, \$25,000.

Home Comfort Shop of which H. A. Cartwright is proprietor, is open for business at 219 South Jefferson Avenue, Saginaw, Michigan.

Delta Electric Company is locating at 3438 Livernois Avenue, Detroit, Michigan.

Marquette Radio Corporation will feature an extensive line of radio and electrical supplies at 140 South Dearborn Street, Chicago, Illinois. Incorporators: W. R. Brown and others. Incorporated capital, \$25,000.

Deko Electrical Supply Company, an old established concern, is conducting an electrical supply business at 919 Pine Street, St. Louis, Missouri. Incorporated capital, \$30,000.

Goeringer Electric Company has opened an electrical supply business at 51 South Washington Street, Wilkes-Barre, Pennsylvania. Incorporators: Merrill J. Hartman, 231 South Hancock Street, Wilkes-Barre, and others. Incorporated capital, \$30,000.

Richter Electric Company will conduct an electrical supply business at St. Louis, Missouri. Incorporators: Joseph E. Lindsey, 1111 Chemical Building, St. Louis, and others. Incorporated capital, \$30,000.

Eastern Texas Electric Company of which A. F. Townsend is general manager, will erect a three story annex to the building now occupied at Beaumont, Texas, cost of which will be \$45,000.

Majestic Electrical Appliance Company is locating at San Francisco, California. Incorporators: E. C. Easton, 315 Montgomery Street, San Francisco, and others.

Commonwealth Appliance Company has established headquarters at 373 Robert Street, St. Paul, Minnesota. Formerly located at 182 East Sixth Street, St. Paul. Incorporated capital, \$50,000.

Detweiler-Bell Company is conducting an electrical supply business at 152 Temple Street, New Haven. Incorporators: Paul G. Detweiler and others. Incorporated capital, \$50,000.

Eagle River Electric Company will locate at Gypsum, Colorado, where an extensive line of electrical supplies will be carried. Incorporators: Harrison L. Shaffer and others. Incorporated capital, \$50,000.

Marin Electric Company has opened an electrical appliance business at 512 Sixth Avenue, San Francisco, California. Incorporated capital, \$75,000.

Stephen Hall & Company will feature a complete line of electrical supplies at 691 Adams Street, Hoboken,

New Jersey. Incorporators: Stephen M. Hall, Montclair, New Jersey, and others. Incorporated capital, \$75,000.

Brockway Radio Corporation has established headquarters at Boston, Massachusetts, where an extensive line of radio supplies will be handled. Incorporated capital, \$100,000. Incorporators: George H. Stevens, 234 Temple Street, Boston, and others.

Martin-Gibson Company, in the electrical supply business at 3143 Woodward Avenue, Detroit, Michigan, has increased capital stock from \$75,000 to \$150,000.

Wadsworth Electric Sales corporation will conduct an electrical supply business at Covington, Kentucky. Incorporated capital, \$150,000.

Front Company will operate retail business with main offices at 1301 Main Street, Wheeling, West Virginia, where a complete line of electrical supplies will be carried. Incorporators: Henry M. Front and others. Incorporated capital, \$100,000.

The H. Bishoff Electric Shop announces the opening of a new store at 1265 Main Street, Hartford, Connecticut, and would like to hear from any manufacturer or distributor dealing in high grade electrical merchandise of every kind.

Chapin Electric Shop is opening a branch store at Chapin and Division Streets, South Bend, Indiana.

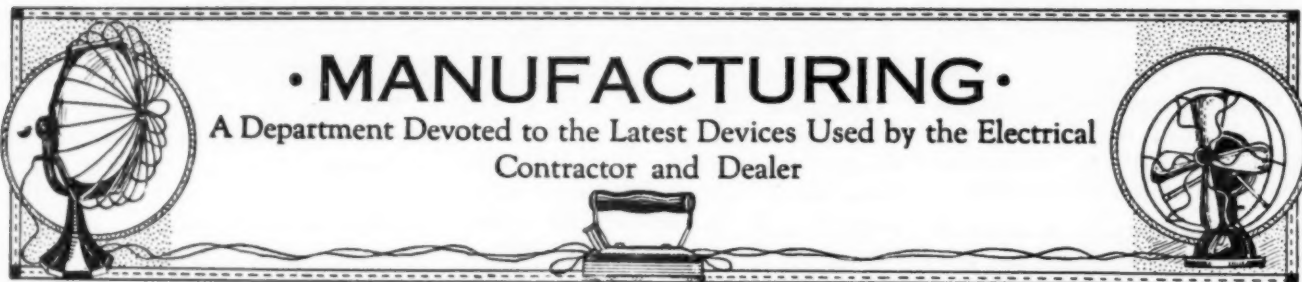
Electrical Distributors Corporation will conduct an electrical supply business at New Britain, Connecticut. Incorporators: A. G. Kimball, 61 Lexington Street, New Britain, and others. Incorporated capital, \$200,000.

Premier Service Company located at 501 North Ninth Street, St. Louis, Missouri, will move to 119 North Eighth Street, where a new electrical supply store will be opened.

Thomas V. Sharp is enlarging his electrical contracting business at new headquarters, 239 Chartres Street, New Orleans, Louisiana. Formerly at 130 Decatur Street, New Orleans.

Narragansett Electric Lighting Company, 800 Turks Head Building, Providence, Rhode Island, will open a branch store at 1499 Broad Street, Providence.

Edwin Seaman, electrical contractor, announces the opening of a new store in the Post Office Building, Mineola, New York, where an up-to-date line of electrical merchandise will be carried.



New Fluted Catch Device

A new fluted catch device has been placed on the market by the Sprague Electric works of New York City.

This is a flat cover with brass fluted catch ring riveted thereto. The body



shell of the fluted device may be snapped directly into the fluted catch ring on the cover.

Some of the advantages are: It eliminates the cost of a socket cap which would have to be used with a nipple cover or a more expensive fluted catch base; an automatic ground is provided for the socket; headroom is saved which is important on low ceilings.

New Glass Reflector

To conceal the light source—to gather up all the light that with a bare lamp would be wasted and redirect it, concentrating it evenly upon the display



plane—to deliver a flood of light where the illumination is desired—these are the qualifications set forth by the Pittsburgh Reflector and Illuminating Company of Pittsburgh in behalf of its line.

Reflector No. 51, illustrated, is designed for high, shallow windows, medium high trim. Island windows or windows with the upper part of the background of glass. Light is cut off sharply on the 55° line. Height 8 1/8 inches. Width 9 3/8 inches. Front to back 9 5/8 inches and back to center 3 3/4 inches. Receptacles must be not less than 3 3/4 o. c. from glass. For 100 to 200 watt lamps.

These reflectors are made of fine quality crystal glass, clear and sparkling, blown in its own factory in order that control could be given every step of the glass making, claims the manufacturer. The verticle flutings prevent unpleasant shadows and assure evenness of lighting.

New Coffee Grinder

Cutting the coffee, not grinding or crushing it, thus saving volatile oil, and economy of operation are the features of a new coffee grinder named, recently developed and placed on the market by C. M. Nevius, Inc., Hornell, New York.

This coffee grinder is driven electrically by a Westinghouse motor that will operate on either direct or alternating current circuits. It is stated that this mill will produce good granulation at three pounds per minute, will granulate fine at two pounds per minute and will pulverize coffee as fine as cornmeal at one pound per minute. Furthermore, in producing such comparatively large quantities of ground coffee this machine will not overheat. The straight, sharpened, keen, tempered, long lived steel knife blades shave off the coffee at about 300,000 separate cuts per minute.

All parts can be easily and readily cleaned and the grinder is absolutely fool proof.

The machine takes up less counter space than the ordinary type of coffee grinder and is permanently finished so as to appear like polished or frosted silver. All moving parts are concealed to fully protect them from rust or injury.

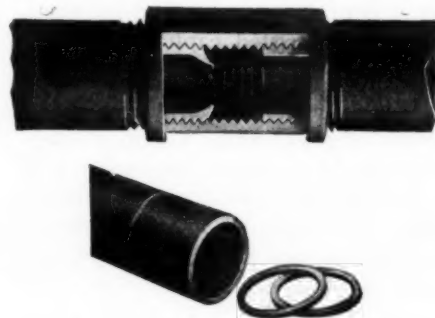
Central Stations should be especially interested in this coffee mill because of its adaptability to the various circuits, and the fact that line disturbances are eliminated by use of a small universal motor.

Square End Pipe Cutter

It is claimed by the manufacturer, The Borden Company of Warren, Ohio, that in using its line of Square End Pipe Cutters much time and trouble is

saved in the threading and cutting of conduit. The Square End Pipe Cutter, it is claimed, cuts pipe square without burrs and with the cutting knives automatically. A square end cut is made to facilitate wire snaking.

It is easy to understand that a bare knife on the end of a screw would dig into the pipe too deep and break, therefore the Beaver Cutter has the cutting



knives so formed that a guide limits the cut to just what a knife will stand. Likewise, as the operator cannot continually feed the knives while turning the tool, the constant and continued feeding of a Beaver Cutter is obtainable by a heavy spring that works all the time without attention from the user.

The disadvantages of ordinary wheel and roller cutters, it is pointed out, are more serious than is often apparent—all users know of the trouble experienced in making them track and the labor involved, but proper consideration is often lacking of the result of their use.

New Store Light



The new Magic-Lite manufactured by the Brascolite Company of St. Louis is

an economical highly efficient commercial lighting fixture especially designed for store illumination in that it gives a brilliant light without glare.

A spring attachment with thumb release, which holds the enclosing globe in place, makes it easy to remove the globe for cleaning or fitting with lamp bulb, and this exclusive feature adds greatly to its convenience.

The enclosing globe is made of special high efficiency white glass. The reflector is of white porcelain enameled steel, guaranteed by the manufacturer not to check, discolor or deteriorate in service.

Condensed Notes of Interest to the Trade

"Selling in the Home" is the title of a 44-page booklet issued by the Western Electric Company containing tips for residence salesmen on its line of house-keeping appliances. It is announced that the publicity department of this company in New York City, formerly at 110 William Street, is now located at 195 Broadway.

Announcement is made of a new bulletin handsomely bound and printed in colors published by the Frank Adam Electric Company of St. Louis. Instead of being only a catalog of the manufacturer's products an attempt has been made to give some standardized practice in the heater lighting field with sufficient facts to enable the architect to lay out or supervise the laying out of a theater lighting job.

The Robbins & Myers Company of Springfield, Ohio, announces the appointment of H. H. Beck as its advertising manager as of March 1. Mr. Beck formerly was associated with the advertising agents, Erwin, Wasey & Company of Chicago.

A new sales office in Boston has been opened by Harvey Hubbell, Inc., of Bridgeport. A warehouse will not be maintained but for the convenience of the trade samples of the company's line including catalogs and circulars may be procured there. The address is 176 Federal Street and the manager is R. M. McCormick.

George A. Saylor, who was recently appointed western sales manager of the electrical division of The John-Pratt Company of Hartford, accepted his first important position in the electrical railway industry in 1900, when he became general superintendent of the Indian-

apolis, Columbus and Southern Traction Company, in which capacity he served for six years. At that time Mr. Saylor enjoyed the distinction of being the youngest traction superintendent in the United States.

The factory which the General Electric Company has erected at Oakland, California, was put into operation on March 1, and is being used primarily for repair and service work and the assembly of switchboards. It is the intention later to undertake the manufacture of distribution transformers.

Advertising in trade magazines was begun in March by the Westinghouse Company in order to direct the attention of the trade to its line of motors. The plan of the advertisements which will be written up in booklet form later discusses the subject of building goodwill for the company on this product.

The Connecticut Telephone & Electric Company of Meriden, Connecticut, is preparing to erect a new factory building as soon as weather conditions permit. It will be built of iron and concrete and will add very materially to the company's already large plant.

The F. W. Wakefield Brass Company, Vermilion, Ohio, announces the appointment of the Geo. A. Gray Company, San Francisco and Los Angeles, as its Pacific Coast representatives.

The Sprague Electric Works of General Electric Company announces the consolidation of its district and local offices with corresponding offices of the General Electric Company, effective April 1st. The manufacture and exploitation of Sprague products will be continued in the name of the General Electric Company in the recently organized Merchandise Department.

The General Electric Company has announced that it will erect in Detroit a five story concrete building costing approximately \$250,000 which will be used for warehouse purposes, service shop, garage and will also house the Detroit local office of the company.

A branch office has been opened in Philadelphia by the Betts & Betts Corporation of New York City with Vernon H. Walker as district manager. The location is 1536 Cherry Street.

Following its annual stockholders' and board of directors' meetings the Chicago Fuse Mfg. Company announces the retirement from active duties as president of Arthur D. Dana, who will become

chairman of the board. Mr. Dana is succeeded by William W. Morrill, a close associate for many years.

L. U. Murray, manager of the Columbus local office of the General Electric Company, has been appointed district merchandise manager of the Cincinnati district, and is succeeded by J. A. Davis as manager of the Columbus office.

The Robbins & Myers Company, Springfield, Ohio, announces the opening of a new sales office in Charlotte, N. C., at the Latonia Building, with Albert Milnow in charge.

A. S. Childs has resigned as sales manager of the Cooper Hewitt Electric Company after many years of association with that company, and it now associated with a business not in the electrical field.

The American Insulated Wire & Cable Company of Chicago announces that it is manufacturing magnet wire, having begun operations on April 1. Its products which include all kinds of magnet wire are sold under the trade name A-1 Magnet Wire. It is understood that its factory equipment is most modern in every respect, the company's present standard of high quality will be maintained in this new line as it is maintained in all its other lines.

A quarterly catalog is to be issued by the Peerless Light Company of Chicago, the first number of which was placed in mail about the middle of April. Contents include information on wiring materials and supplies, fixture and portable parts, lighting fixtures, portable lamps, heating appliances, and radio.

It is announced that the Pittsburgh office of the Cutler-Hammer Mfg. Company as of May 1 is at Seventh Street between Penn Avenue and Duquesne Way instead of at the Farmers Bank Building. A. G. Pierce is manager.

Last year the General Electric Company conducted a fan advertising campaign in about eighty newspapers representing the different sections of the country. This year it will conduct a similar sales effort in nearly one thousand newspapers, or more than twelve times as many as in 1922, it is understood.

Elaborate advertising material setting forth its line of Red Seal batteries has just been issued to the trade by the Manhattan Electrical Supply Company of New York City. It is scheduled to be

furnished at different intervals throughout the year.

As of April 1 all communications to the general offices of the Standard Underground Cable Company should be addressed to 100 Seventeenth Street instead of to the Westinghouse Building as heretofore.

The Westinghouse Electric and Manufacturing Company has announced that applications can be filed for the 1923 War Memorial Scholarships. Four scholarships are established annually by this company as a memorial to those employees who entered the service during the World War.

Dr. Edward P. Hyde, who organized the Nela Research Laboratories in 1908, and who for the past few years has occupied the position of director of research of the National Lamp Works, has tendered his resignation to take effect June 30 of this year.

Orders received by the General Electric Company for the three months ending March 31st, amounted to \$80,010,045, according to an announcement just made to stockholders by President Gerard Swope. This is an increase of 56 per cent. over a similar period last year when orders totaled \$51,335,300.

The T. R. B. Lighting Unit, a recent development of the Mitchell Vance Company, Inc., New York City, is described and illustrated in a series of folders for distribution in various business lines in addition to a beautiful loose leaf catalog issued by the company.

James A. Bennett has been appointed sales manager of the Connecticut Telephone & Electric Company, Meriden, Conn., to succeed Charles E. Stahl.

The Cutler-Hammer Mfg. Company of Milwaukee has made an agency arrangement with O. T. Jenkins, 1002 Pacific Avenue, Dallas, Texas, covering the sale of wiring devices, radio apparatus, and other standard products of the company.

Fuse Venting Protection

Reliability and economy in renewable fuses have been accomplished through the development of the fuse with the Shurvent construction by engineers of the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

This construction acts on the principle of baffles because it retards the flow of gas sufficiently to maintain enough pressure within the cartridge to extinguish the arc, and it also allows the

gases to leave the fuse only after they have been cooled to a temperature that eliminates hazard.

In the Westinghouse design, the distinctive feature is the positive method of venting and cooling the hot gases generated when the fuse volatilizes. These fuses have a series of fixed washers at each end of the casing. These washers are channeled to form air chambers and they are connected to the inside of the casing, to each other, and to the outer air by staggered openings. The hot gases will follow these courses more readily than along the threads, but they will be retarded sufficiently to accomplish two purposes—effective quenching of the arc in the casing, without damage to the casing itself, and cooling of the gases so that they will leave the fuse at a safe temperature.

Electric Sign Evolution

Two hundred and fifty thousand electric signs blaze nightly in the United States, and fifteen million electric lamps are needed to illuminate them, according to a recent survey.

The largest electric sign in the country is studded with 20,000 lamps, the smallest uses but one miniature bulb, and the average number of electric lights to the sign is sixty.

Theatres and motion picture houses lead in the number of electrical displays, with more than two and a half million lamps. Second on the list is the automobile business, including garages, salesrooms, gas and oil stations, etc., with a million and a half lamps. Restaurants, clothing stores, hotels, banks and drug stores follow in the order given.

The average cost of these quarter million signs is less than one dollar a lamp a year, and their use throughout the country is increasing at a rate of approximately 15 percent a year.

The use of illuminated signs to attract the attention of the public dates back to the middle of the last century, when the first patent was granted for an advertising device wherein a gas burner was equipped with brackets to hold a pane of glass upon which the advertisement was painted.

Electric signs, used all over the world today, have reached their present high state of development in less than fifty years. In 1878 the first electric sign was put on the Gaiety theatre in London, and was acclaimed as giving the brilliance of "half a dozen harvest moons shining at once in the Strand."

Highway Lighting

Illuminating engineers who have been studying the problem of reducing danger to road traffic and pedestrians from automobile headlight glare have decided that the solution lies in the development of highway lighting, not in changes in headlights.

A committee of the National Electric Light Association, which has had this matter under investigation, believes that lighting systems applying to highways the illuminating principles embodied in regulation street lighting are best calculated to meet the needs of the situation.

It has been found that where highways are lighted by properly hung and properly spaced lights of approved street illuminating type, accidents chargeable to anything save careless or reckless driving are few.

Under such conditions the headlights can be dimmed and there is no dangerous glare from them, and no confusing contrast between their concentrated illumination and the surrounding darkness.

Prevents Ship Rolling

A steel top weighing one hundred tons, thirteen feet in diameter, and driven a 350-horsepower electric motor, has been built by Elmer A. Sperry, inventor of the gyroscope, to prevent rolling by a ship at sea and the consequent discomfort of the passengers.

This gigantic top will run at eight hundred revolutions a minute in a huge metal case set in the hold of the vessel, and so built that both case and top can incline to meet the motion of the ship.

The top is electrically connected with a small gyroscope, which responds to the least roll, and communicates its motion or swing, to the hundred ton top. Answering the motion of the electric gyroscope, the top swings first one way and then the other, and thus stops the roll of the vessel before it is well started, by acting as a counterbalance to the successive waves.

So heavy is this top that two hours are necessary to bring it to full speed, and, once going, it will run without motive power for eighteen hours before stopping. In operation it will exert a downward pressure of 300 tons on one side of the ship and an equal upward pull on the other. It is expected that the *Hawkeye State*, for which it has been built, will keep an even keel in any weather.

Will You Depend on the Moon?



NO—not if you see the possibilities of selling X-Ray Projectors for floodlighting buildings, monuments, beaches, or amusement parks. You have many applications of X-Ray Floodlighting right around you!

Everyone likes to go where the light is bright; even young couples. *But, they can't depend on the moon!* Start **NOW** to sell more

X-Ray Reflectors EVERLASTING BRILLIANCY for Floodlighting

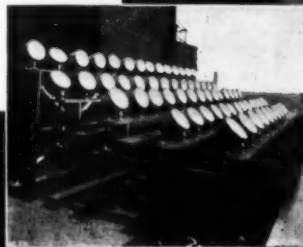
Beaches—Floodlighting insures safety to bathers and makes night bathing a real pleasure.

Amusement Parks—A feature of many popular amusement parks is the Floodlighting in either white or colored light with X-Ray Projectors. Just the thing for spectacular effects!

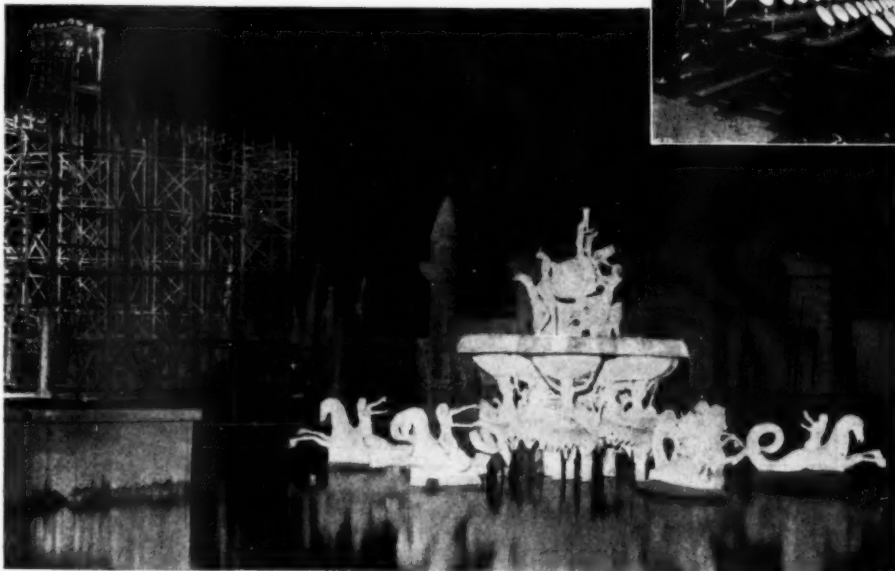
Buildings and Monuments—Floodlighting is a dignified and compelling way of advertising. Architectural beauties are emphasized. Buildings and monuments stand out clearly against the night!

Sports—There are many ways to use Floodlighting — Trap Shooting, Golf, Tennis and other sports.

This shows a bank of X-Ray Projectors used to light the Wrigley Building.



The Wrigley Building (at night) can be seen for a distance of eighteen miles. It is floodlighted with powerful X-Ray Projectors.



Monuments, Fountains, etc., are spectacular at night with X-Ray Floodlighting.

Let us help you with your floodlighting jobs.

National X-Ray Reflector Co.

New York
31 W. 46th Street

CHICAGO
235 W. Jackson Blvd.

Los Angeles
Pacific Finance Bldg.

Engineers in all Principal Cities

Use

- No. 51 X-Ray Floodlighting Projector with 250 Watt Lamp.
- No. 60 X-Ray Floodlighting Projector with 500 Watt Lamp.
- No. 91 X-Ray Floodlighting Projector with 300-1000 Watt Standard Mogul Base Lamp.

Every X-Ray Projector is equipped with a powerful Silver Mirrored X-Ray Reflector!

ASSOCIATION OF ELECTRAGISTS

INTERNATIONAL

Formerly National Association of Electrical Contractors and Dealers

Officers:

PRESIDENT, James R. Strong,
526 W. 34th Street, New York City.

GENERAL COUNSEL, Franz Neilson,
New York City.

SECRETARY AND TREASURER, Farquson Johnson,
15 West 37th Street, New York City

SPECIAL REPRESENTATIVE, Laurence W. Davis,
15 West 37th Street, New York City.

Executive Committeemen**EASTERN DIVISION**

W. Creighton Peet,
70 East 45th Street,
New York City

SOUTHERN DIVISION

J. A. Fowler,
118 Monroe Avenue,
Memphis, Tenn.

EASTERN CANADIAN DIVISION

R. A. L. Gray,
85 York Street,
Toronto, Ont.

GREAT LAKES DIVISION

L. G. Ross,
1305 Tower Avenue,
Superior, Wisconsin

CENTRAL DIVISION

A. Penn Denton,
17th and Oak Streets,
Kansas City, Mo.

WESTERN CANADIAN DIVISION

C. C. Carter,
739 Hastings Street W.,
Vancouver, B. C.

PACIFIC DIVISION

C. L. Chamblin,
687 Mission Street,
San Francisco, Calif.

MOUNTAIN DIVISION

E. C. Headrick,
89 Broadway,
Denver, Colorado

AT LARGE

James R. Strong,
526 W. 34th Street,
New York City.

OPEN SHOP SECTION

Arthur L. Abbott,
182 E. Sixth Street,
St. Paul, Minn.

UNION SHOP SECTION

L. K. Comstock,
21 East 40th Street,
New York City

Past Presidents of the National Electrical Contractors' Association

Charles L. Eidlitz.....1901-1903
Ernest McCleary.....1903-1905
James R. Strong.....1905-1908

Gerry M. Sanborn.....1908-1910
*Marshall L. Barnes.....1910-1912
Ernest Freeman.....1912-1914

John R. Galloway.....1914-1916
Robley S. Stearnes.....1916-1918
W. Creighton Peet.....1918-1920

*Deceased.

COMMITTEE CHAIRMEN**ARCHITECTS**

Clyde L. Chamblin
687 Mission St., San Francisco, Calif.

ENGINEERS

R. A. L. Gray
85 York Street, Toronto, Can.

PUBLICATION

L. K. Comstock
21 East 40th Street, New York City

CODE

A. Penn Denton
17th and Oak Sts., Kansas City, Mo.

LEGISLATION

E. C. Headrick
89 Broadway, Denver, Colo.

STANDARDIZATION

L. G. Ross
1305 Tower Ave., Superior, Wis.

CONVENTIONS AND MEETINGS

James R. Strong
526 W. 34th St., New York City

LIABILITY INSURANCE

J. A. Fowler
10 S. Second Street, Memphis, Tenn.

TRADE POLICY

(Covering Manufacturers, Central Stations,
Jobbers and Merchandising)
W. Creighton Peet
70 East 45th Street, New York City

COST DATA

A. L. Abbott
182 E. 6th Street, St. Paul, Minn.

MEMBERSHIP

James R. Strong
526 W. 34th Street, New York City.

ELECTRAGISTS' DATA BOOK

J. A. Fowler
118 Monroe Avenue, Memphis, Tenn.

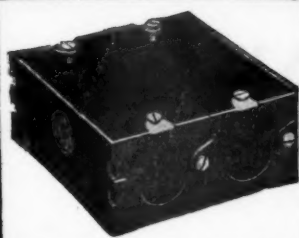
CREDIT AND ACCOUNTING

C. C. Carter
739 Hastings St. W., Vancouver, B. C.

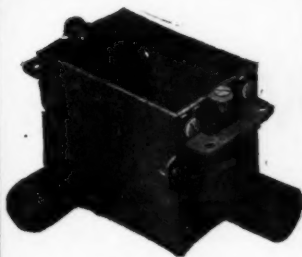
U. S. CHAMBER OF COMMERCE

L. K. Comstock
21 East 40th Street, New York City

ANNUAL CONVENTION, WASHINGTON, D. C., WEEK OF OCTOBER 8, 1923.



"Union" No. 170 2-Gang Box



"Gem" B Box



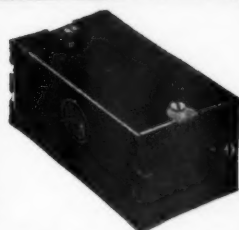
"Union" No. 160 2-Gang Box



"Gem" F C Box



"Union" Tandem 2-Gang Box



"Union" No. 170 Single Box

Don't be Deceived By Imitations

"Gem" Sectional Switch Boxes are the *original* make. They were first placed on the market over 21 years ago and have proved their reliability to thousands of users.

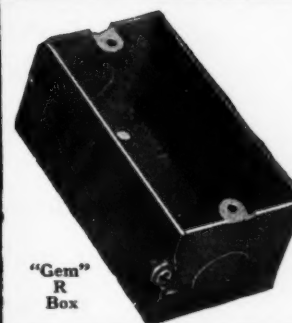
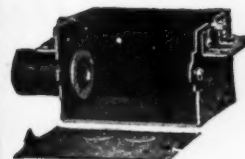
Throughout the trade "Gem" are recognized as the *standard* boxes. They contain numerous refinements of design found in no other make.

"Gem" Sectional Switch Boxes cannot be successfully imitated.

Their great success has brought a horde of imitations and substitutes. But no other organization is qualified by experience, by resources and by equipment to duplicate the "Gem" line.

Remember, two things are never counterfeited—plugged nickles and *ordinary* switch boxes.

"Gem" Boxes are sold by electrical jobbers and dealers everywhere. Write for Catalog No. 29.

"Gem"
R
Box"Gem" B S Box
Showing Type R Bushing

Covered by U. S.
Patents Nos. 950-
502 March 1, 1910
and 1016925 Feb.
13, 1912.

CHICAGO FUSE MFG. CO.

Manufacturers also of
Cut-out Bases, Fuse Plugs, Fuse Wire, Automobile Fuses,
Renewable and Non-renewable Fuses.

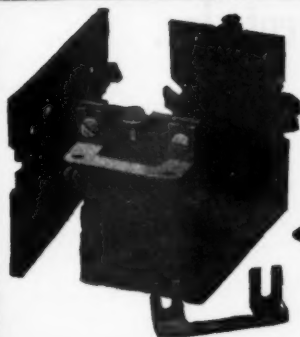
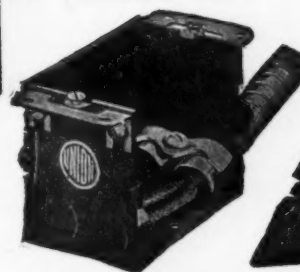
CHICAGO

NEW YORK



GEM

SECTIONAL SWITCH BOXES

"Gem" B Box
Dis-assembled"Union" SS
Single Box

"Gem" X Box

There is Work for All

Authorities tell us that we are just entering the greatest business boom in American history.

Electricity playing, as it does, a part in practically everything modern, the Electragist, therefore, can count on a ready market for his services.

His success will be regulated by his ability to secure business at a reasonable profit and only by so doing, does he live up to the meaning of and become entitled to call himself an Electragist.

Helping the Electragist

Shoulder to shoulder, unceasingly, another co-operative organization is working with your Association, to impress upon the public the necessity of patronizing none but responsible electrical men.

In addition, that other organization is creating market for more and better electric service and supplies through the medium of the daily papers, advertising and merchandising helps, booklets, word of mouth and what-not.

Such work merits the support of every right thinking Electragist. The cost of membership is nominal—the benefits, immeasurable.

For full information, write to:

The Society for Electrical Development, Inc.

Staff Headquarters: 522 Fifth Avenue, New York, N. Y.



PROTECTION SERVICE



VULCABESTON

You wouldn't use
poor cartridges
in a good rifle

You wouldn't use poor cartridges in a good rifle and expect to shoot straight. Neither would you expect to do good shooting with a poor rifle, even if you used the best cartridges.

NOARK Fuses can be relied on to give your customers dependable service. But it will add to your reputation and profits if you do your part to make sure their cutout bases and fuse clips are equally dependable.

Offer your trade a complete fuse protective service by offering NOARK Fuses, NOARK Fuse Clips and NOARK Cutout Bases.

NOARK

Fuses

Clips

Cutout Bases

Service Boxes

N. E. C. Standard

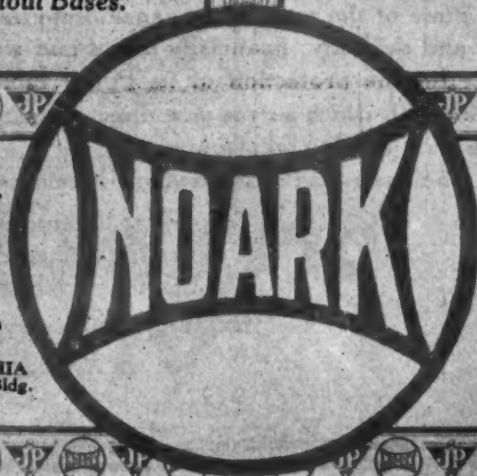
The Johns-Pratt Company
Hartford, Conn.

NEW YORK
41 East 42nd St.
ST. LOUIS
Boatmen's Bank Bldg.

BOSTON (9)
161 Summer St.
CLEVELAND
Engineers' Bldg.

CHICAGO
35 So. Desplaines St.
PITTSBURGH
Bessemer Bldg.

SAN FRANCISCO
Call Building
PHILADELPHIA
Franklin Trust Bldg.



IN 1915 the Insurance Committee of the National Association of Electrical Contractors and Dealers investigated and recommended to their membership the plan of Insurance at Cost as conducted by Lynton T. Block & Co., of St. Louis.

Now in 1921, after six years of experience in dealing with this well known insurance organization, this same committee has expressed its continued unqualified satisfaction in the resolution contained on this page.

This resolution is therefore presented in this form for the benefit and information of the membership at large.

SIX YEARS OF SATISFACTION 1915-1921

SIX YEARS of satisfactory dealings with Lynton T. Block & Co., Underwriters, of St. Louis, has prompted your Insurance Committee again to go on record as endorsing their plan of insurance, with the attendant saving in money to our members.

Every Insurance Policy placed with this concern increases its ability to serve you better, both in the lowered rates it has influenced and the yearly saving it accomplishes. If the bulk of our members would avail themselves of this tangible advantage of membership, the saving made possible by the action of your Committee would probably total **Fifty Thousand Dollars Every Year.** Volume of business will do this. Your Insurance Committee has done its part; you should do yours and not only save money for yourself, but help your fellow members to save this enormous aggregate.

EVERY promise made by this underwriting organization has been more than faithfully kept, and the advantages have from time to time been increased without any solicitation or additional obligation on the part of the Assured.

Insurance with them costs less than it did six years ago, the coverage is more complete, and the savings are increased wherever deserved. The individual experience of the individual risk is now taken into account in determining the savings.

Inquiry addressed to Lynton T. Block & Co., Underwriters, St. Louis, Mo., or to the Secretary of your Association will bring full particulars regarding Insurance at Cost.

THE RESOLUTION SPEAKS FOR ITSELF—

RESOLUTION

Recognizing the insurance problems confronting this organization, and for the purpose of procuring the best indemnity at the lowest cost, the Executive Committee of this Association, after a careful and thorough investigation by its Insurance Committee in 1915, endorsed the plan of "Insurance at Cost," as conducted by Lynton T. Block & Co., Underwriters, of St. Louis, Mo., through their several Insurance organizations, and recommended to the members of this Association that they avail themselves of the saving in cost and the high character of service afforded.

WHEREAS, a large proportion of the members of this Association have for the past six years, carried their insurance through Lynton T. Block & Co., and found the saving in money to be substantial and the service to be highly satisfactory, and

WHEREAS, the Executive Committee deems these insurance arrangements to be among the important benefits which have been provided for members of this Association;

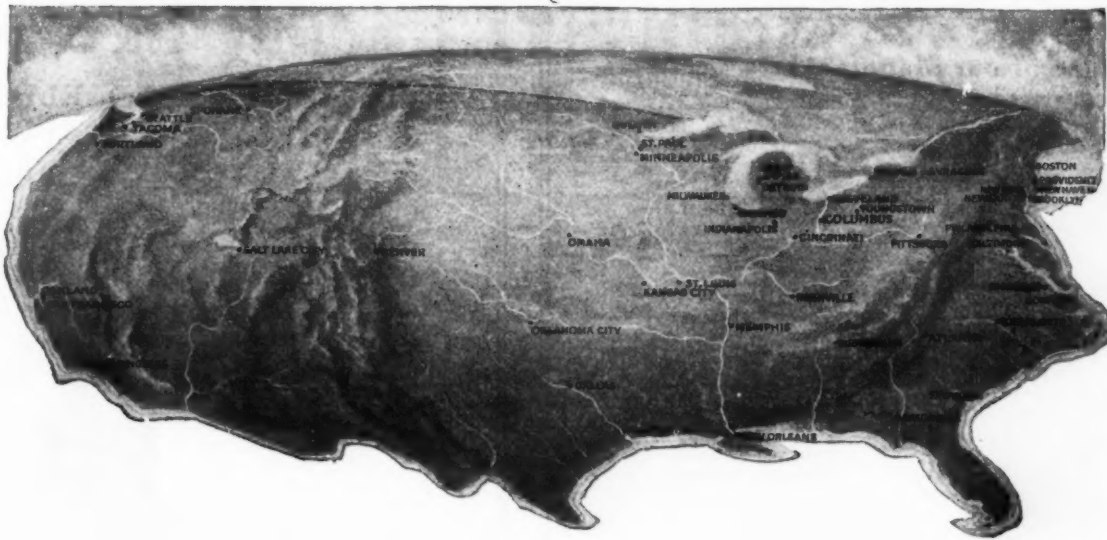
NOW, THEREFORE, BE IT RESOLVED, That the Executive Committee ratify its former endorsement of the Insurance and Service afforded by Lynton T. Block & Co. and urge upon those members not now taking advantage of it to lend their cooperation in this respect and communicate with the St. Louis Office of Lynton T. Block & Co. in matters pertaining to Fire, Casualty and Workmen's Compensation Insurance, with a view to adding momentum to this movement and securing for themselves the benefits which are made available for them.

BE IT FURTHER RESOLVED, That the Insurance Committee of the N. A. E. C. & D. finds the affairs of the various Insurance organizations of Lynton T. Block & Co. to be administered honestly and skillfully; financially sound and worthy of confidence; that each such organization has ample assets for the protection of its Policy Holders, being backed in each case by Assets in excess of \$2,000,000, which serves as a direct guarantee for the payment of losses and the elimination of any assessment liability whatsoever.

The Insurance Organizations herein referred to are:—

Employers Indemnity Corporation,	St. Louis, Mo.
Utilities Indemnity Exchange,	St. Louis, Mo.
Utilities Fire Exchange,	Kansas City, Mo.
Exchange Mutual Indemnity Insurance Co.,	Buffalo, N. Y.

(Signed) J. A. Fowler, Chairman Insurance Committee,
National Ass'n Electrical Contractors & Dealers.



Where Western Electric Puts Distribution on the Map

In any community a well ordered supply service embracing everything electrical is a vital money saving service to the industries in that community.

It cuts down the delivery time and the cost of purchasing from many sources—a saving essential under present day conditions.

It carries stocks from which users of electricity in that community can draw the electrical goods essential to apply electricity as Light, Power, and means of intercommunication.

To provide these time and money saving conveniences is the function of Western Electric's 48 Houses. Each carries a diversified stock. Each has at its command a staff of specialists with intimate knowledge of the needs of the industries of that community.

One of these Houses is near you and is prepared to offer you a complete electrical service.

A
National
Electrical
Service

Western Electric Company

OFFICES IN ALL PRINCIPAL CITIES



Some of our Manufactured Products



Weatherproof Bell



Electro Mechanical Bell



Competition Bell

Pivoted Armature
Skeleton Bell

Iron Box Bell

ANNUNCIATORS

HOUSE
HOTEL
HOSPITAL
ELEVATOR
MARINE
WOOD OR METAL
ALL STYLES OF DROPS
AND RESETS

BELLS

IRON BOX
WOOD BOX
FIRE-ALARM
SKELETON
VIBRATING
SINGLE STROKE
WEATHERPROOF
ELECTRO-MECHANICAL

BUZZERS

IRON BOX
WOOD BOX

PUSHES

WOOD
METAL
DESK
DOOR
PEAR
FLOOR
MARINE
MULTIPLE
TABLE CLAMP
ALL FINISHES

SOCKETS

KEY
KEYLESS
PULL CHAIN
ALL FINISHES

FIRE ALARMS

CABINETS
BOXES
SYSTEMS FOR CURRENT
OR STORAGE BATTERY

SHADES

METAL SHADES OF ALL
DESCRIPTIONS

LETTER BOXES

OF ALL DESCRIPTIONS

FLOOR BOXES

SPEAKING TUBES

TIN TUBE
FLEXIBLE TUBE
WHISTLES
ELBOWS
COLLARS
ROSES

BURGLAR ALARMS

DOOR SPRINGS
WINDOW SPRINGS
TRANSOM SPRINGS

TANK ALARMS

W. R. OSTRANDER & CO.

371 Broadway, New York

Factory: 83-85-87-89 Clifton Place, Brooklyn, N. Y.

There is a practical reason for every "T & B" product

T. & B. CAPPED ELBOW



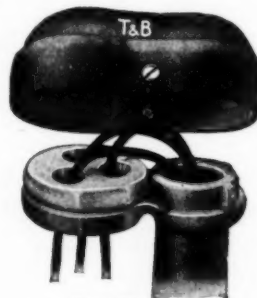
Approved by National Board.

Eliminates the fishing of wires through
a sharp bend.

SO SHAPED AS TO ALLOW CON-
DUIT TO RUN CLOSE TO WALL.

All openings bushed to prevent abrasion
of wires.

Heavily galvanized and weatherproof.



Cap No. 1430

T. & B. ENTRANCE CAP

Approved by National Board.

Lots of room for wires

Easy to install

SAVES MONEY

Only two screws

Screws are burred and can't fall out

SAVES TIME

Heavy Cast Iron

Galvanized

THEY WILL NOT RUST

THE THOMAS & BETTS CO.

Factory, Elizabeth, N. J. Boston Office, 10 High St.
New York Office, 63 Vesey St.

WEBER DEPENDABLE WIRING DEVICES

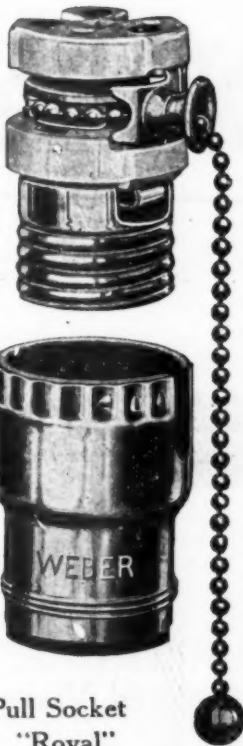
Distinguish the best from the rest!

It is easy, and Decidedly Profitable



SPECIFY

"ROYAL" SOCKETS



They employ a familiar construction, but give unmistakable evidence of that nicety of manufacture and perfection of finish that have distinguished all Weber goods for more than fifteen years.

And the Line is Complete

- | | |
|-----------------------------|----------|
| 6 Socket Bodies | |
| 8 Switch and Rosette Bodies | |
| 20 Caps | 19 Bases |

Pull Socket
"Royal"

On your next order for porcelain sockets, specify WEBER

CONSULT OUR CATALOG

HENRY D. SEARS

General Sales Agent

80 BOYLSTON STREET
BOSTON 11, MASSACHUSETTS

SALES REPRESENTATIVES IN:

New York	Philadelphia	Cleveland	Chicago
Birmingham	San Francisco	Los Angeles	

PITTSBURGH
 THREAD PROTECTED
 ENAMELED CONDUIT
STANDARD
 PATENTED



*Change the Hour
 of Need—*



*—to the Hour of
 Profit*

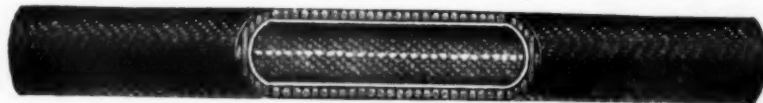
PITTSBURGH Standard is solving the hour problem for the Electragist. Tracing back over the electrical jobs that failed to pan out, generally loss is centralized on delays, the summation of which would be only an hour of actual working time, but many hours as profit time is reckoned.

Put the job straight through with P. S. It reaches the job ready to install. A saving right from the start.

Eliminates reversing couplings and running dies over pipe ends. Men work faster and better when relieved of this tiresome labor. Patented Thread Protectors keep threads sharp, clean and true—with just enough enamel to protect from rust. And it costs no more than ordinary enameled conduit.

ENAMELED
PITTSBURGH PA.
METALS CO.

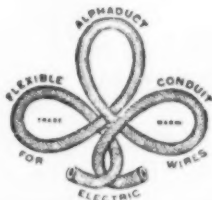
The Loom to Use



ALPHADUCT

It's so easy to fish ALPHADUCT the same "OLD RELIABLE" it has been for many years, with the Glue Sized and Soapstoned White COTTON DUCK Lining.

"Loom" is used as a mechanical protection to the insulation on Electric Wires and ALPHADUCT is admirably suited for this purpose.



ALPHADUCT COMPANY

Jersey City, New Jersey

THE MARKET PLACE

FOR EMPLOYMENT AND BUSINESS OPPORTUNITIES

RATES:

Situations Wanted, \$1.00 per inch, each insertion.
Help Wanted, Business Proposals and For Sale, display type, \$2.50 per inch, each insertion.

ARTISTS—Ready to handle your Photo Retouching, Lettering or Designing—Electrical Appliances and Radio. Address: Jacob Stein Studio, 43 East 27th Street, New York City. Telephone: Madison Square 4199. tf-5

For Sale—Six or eight old style Deihl Electrolier Ceiling Fans can be bought at a low price. Just what you want in a community where DC current is being used. Write for further details to Box T, NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. tf-5

Situation Wanted—I desire to connect with a firm or person who can use my services and the knowledge I have acquired before and while operating my business as a contractor and dealer for nearly six years. I understand in detail, construction problems, appliances and apparatus. Business administration and I am considered a good salesman. Age 34. Salary, commission or both. Address: P. M. Hinchey, 3826 Corliss Avenue, Seattle, Washington. tt-3

RADIO FOR SALE

Two or three beautiful receiving sets of various qualities at one-half off the list price. Anyone desiring a radio set that is efficient, compact and beautiful at the same time, will please address Box L, c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. t.f.-10

For Sale—The following, none of which have ever been in use: Two Liberty Vacuum Cleaners, \$35 each; One Western Electric Heat Regulator No. 100, \$25; One Utility Motor for Farm Lighting Plant, \$25. Address: Crescent Electric Corporation, 3307 Washington Avenue, Newport News, Virginia. tt-2

HELP WANTED—Superintendent who can take charge of a New York City motor repair shop and estimate on outside motor and wiring jobs. Only those with this experience will be considered. Big opportunity for the right man. State fully experience and salary expected. Address: Box Q, c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. tt-1

Wanted—A man experienced in estimating, closing contracts and supervising installations of large work for an electrical contracting company. State in first letter age, past experience, and full information. Address: Box C. E. S., c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. tt-3

AN EXCEPTIONAL OPPORTUNITY

Presents itself in Austin, Minnesota, for the opening of a first class electrical fixture and appliance store and repair shop. Austin is a progressive up-to-date city in Southern Minnesota, eleven thousand population in the heart of the agricultural district and is considered one of the best cities of its size in the state. It is well represented in all other lines but has only one first class electrical store. We have one of the finest locations in Austin on the main thoroughfare with a very fine modern front which will be for rent or lease May 1st. Write for particulars. Address: 2t-5

SCHLEUDER BROS.,
AUSTIN, MINNESOTA.

Situation Wanted—General manager, electrical contractor, seeks connection with well rated A-1 concern. Thirty-four years old, married, seventeen years' experience. Past six years general manager of large firm in Chicago. Knows electrical contracting business, embracing engineering, purchasing, estimating, handling labor, sales technique and business fundamentals, has large acquaintanceship. Capable of taking full charge or assist in managing a going business or branch office. Good organizer for new field. Address: Box R, c/o NATIONAL ELECTRAGIST, 15 West 37th St., New York City. tt-2

Active Salesman Wanted

To handle our fibre and fibre products on commission basis in New England States and New York State, from Albany west; it will be necessary to cover territory regularly. Address: CAMPBELL FIBRE CO., Stanton, Delaware. tt-5

Position Wanted

As superintendent or manager with a progressive electrical contractor or dealer, by an electrical engineer with experience of 15 years. Have had experience selling, estimating and superintending. Am at present employed. If interested, please state your proposition. Address: Box 103, c/o NATIONAL ELECTRAGIST, 15 West 37th Street, New York City. 2t-5

Flashlights For Sale

65 30 pieces Ever-Ready Daylo Flashlights, Fibre shells with Mazda Lamps, without battery, size 8 inches long by 1 1/2 inches wide,
\$35.00 per hundred

Batteries for same in lots of 500 ----- \$25.00 per hundred

Address: Box S, c/o National Electr-
agist, 15 W. 37th St., New York City.

Subscribe for this Magazine today and receive the reports of National Association Activities in every issue.

Published Monthly—\$2.00 a Year.

NATIONAL ELECTRAGIST
15 West 37th St., New York City

Surplus Electrical Material in Good Saleable Condition

SWITCHES

1500 pieces Cat. No. 2773 Type C Knife Switch—60 Amp. 2 Poles 250 Volts; N. E. C. Fused \$.72 Each
650 pieces Cat. No. 2774 Type C Knife Switch—100 Amp. 2 Poles 250 Volts; N. E. C. Fused \$1.17 Each
450 pieces Cat. No. 2775 Type C Knife Switch—200 Amp. 2 Poles 250 Volts; N. E. C. Fused \$2.25 Each
These are manufactured by Trumbull Vanderpool Electric Manufacturing Company, and are packed in original cartons and cases.

WIRE

100,000 feet No. 8 B. & S. "Ideal" Slow Burning Wire—N. E. C. Standard. Packed in rolls of 250 feet each, eight rolls to the case. Manufactured by the Phillips Insulated Wire Company of Pawtucket, R. I. \$15.75 per 100 lbs.

FUSE PLUGS

200,000 3 Ampere Fuse Plugs, made by Bryant Electric Mfg. Co. Packed 50 to the carton, 50 cartons to the case \$14.00 per 1000 plugs
150,000 6 Ampere Fuse Plugs, made by Union Electric Mfg. Company. Packed 50 to the carton, 60 cartons to the case \$13.00 per 1000 plugs

DOOR FLUSH RECEPTACLES

3750 pieces Cat. No. 430 Bryant Disappearing Door Flush Receptacles, manufactured by Bryant Electric Co. of Bridgeport, Conn. \$.30 Each
1500 pieces Cat. No. 494 Plug for Bryant Disappearing Door Flush Receptacle (National Elec. Code Standard), Bryant Electric Mfg. Co. \$.35 Each

UNILETS

1500 Cat. No. 23120 Enameled Unilets, size 1/2" x 1/2", made by Appleton Electric Company, and packed in individual cartons, 25 cartons to the case \$.60 Each
1300 Cat. No. 6632 Switch Unilets, size 1/2", made by Appleton Electric Company, and packed 5 in a carton, 13 cartons to the case \$.38 Each

BRACKETS

51,000 Goose Neck Cast Iron Wall Brackets. Packed 300 to a case at \$5.00 per hundred
No orders accepted for less than 300 Brackets.

REFLECTORS

32,000 8" Flat Cone Steel Reflector Shades; white inside, green outside. Packed 800 to the case \$.03 Each
No orders accepted for less than case lots.

All of the above merchandise is guaranteed to be in good saleable condition. Prices quoted are on case lots.

TERMS—2% ten days—net thirty days, F.O.B. Port of New York.
We reserve the right to fill orders as and when received and to reject all orders when stocks have been exhausted.

Address: S. H., Room 602, 15 West 37th Street, New York City

BUYERS' GUIDE

of some of the products manufactured by the concerns advertising in this issue. To be listed here is a badge of reliability. To buy from here is a guarantee of satisfaction. When you buy from here please mention the NATIONAL ELECTRAGIST

ADAPTERS, LAMP
Bryant Elec. Co.
General Elec. Co.
Hubbell, Inc., Harvey

ALARMS, BURGLAR, FIRE
Conn. Telephone & Elec. Co.
Ostrander & Co.
Patrick & Wilkins Co.
Stanley & Patterson.
Western Elec. Co.

ANNUNCIATORS
Ansonia Elec. Co.
Conn. Telephone & Elec. Co.
Ostrander & Co., W. R.
Patrick & Wilkins Co.
Stanley & Patterson.

ARRESTERS, LIGHTNING
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

ASBESTOS WOOD
Johns-Manville, Inc.

ATTACHMENTS, SOCKET
Hubbell, Inc., Harvey

BATTERIES, DRY
Manhattan Elec. Supply Co.
Stanley & Patterson.

BATTERY CHARGING OUTFITS
Westinghouse Elec. & Mfg. Co.

BELLS, ELECTRIC
Ansonia Elec. Co.
Connecticut Tel. & Elec. Co.
Electrical Sales Co.
Manhattan Elec. Supply Co.
Ostrander & Co., W. R.
Patrick & Wilkins.
Schwarze Elec. Co.
Stanley & Patterson.

BENDERS, CONDUIT
Steel City Elec. Co.
Thomas & Betts Co.

BLOCKS, MOLDING
Bryant Electric Co.
Roberts Elec. Sup. Co., H. C.

BOOKS, ELECTRICAL
Ass'n of Electragists, International.
Society for Elec'l Development, Inc.

BOLTS, TOGGLE
National Metal Molding Co.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.

BOXES, CONDUIT
Appleton Elec. Co.
Chicago Fuse Mfg. Co.
Hart Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Steel City Elec. Co.
Thomas & Betts Co.
Tucker Mfg. Co.
Westinghouse Elec. & Mfg. Co.

BOXES, FLOOR
Frank Adam Electric Co.
Sprague Elec. Works.
Stanley & Patterson.
Steel City Elec. Co.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.

BOXES, MANHOLE (JUNCTION)
Frank Adam Electric Co.
General Elec. Co.
Johns-Pratt Co.

BOXES, METER PROTECTING BOXES
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

BOXES, PULL
Westinghouse Elec. & Mfg. Co.

BOXES, WOOD OR CABINET
Stanley & Patterson.

BRACKETS, TELEPHONE
Stanley & Patterson.
Western Elec. Co.

BRUSHES
General Elec. Co.
Ohio Carbon Co.
Westinghouse Elec. & Mfg. Co.

BUSHINGS, BOX AND CABINET
Fralick & Co., S. R.
Pass & Seymour.
Westinghouse Elec. & Mfg. Co.

CABINETS, METAL
Frank Adam Electric Co.
Hart & Hegeman.
Thomas & Betts Co.
Westinghouse Elec. & Mfg. Co.
Wurdack Elec. Mfg. Co.

CHARGING OUTFITS
General Elec. Co.
Robbins & Myers Co.
Westinghouse Elec. & Mfg. Co.

CIRCUIT BREAKERS, AUTOMATIC
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

CLAMPS, CABLE SUPPORTING
Steel City Elec. Co.

CLAMPS, GROUND CONNECTION
Fralick & Co., S. R.
General Elec. Co.
Hart Mfg. Co.

Minerallac Elec. Co.
National Metal Molding Co.
Sherman Mfg. Co., H. B.
Sprague Elec. Works.
Thomas & Betts Co.

CLAMPS TEST
Appleton Elec. Co.

CLEANERS, VACUUM
Western Elec. Co.

CLIPS, FUSE
Bryant Electric Co.
Johns-Pratt Co.

COILS, CHOKES
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

COLORING AND FROSTING, INCANDESCENT LAMPS
Philadelphia Elec. Co.

CONCENTRIC, WIRING FITTINGS
General Elec. Co.

CONDENSERS, TELEPHONE AND TELEGRAPH
Connecticut Tel. & Elec. Co.
Western Elec. Co.

CONDUIT, INTERIOR
Alphaduct Co.
American Circular Loom Co.
Central Tube Co.
Clifton Mfg. Co.
Enameled Metals Co.
Killark Elec. Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Steel City Elec. Co.
Trumbull Elec. Mfg. Co.
Tubular Woven Fabric Co.

CONDUIT, UNDERGROUND
Johns-Manville, Inc.

CONNECTORS, BRASS CYLINDER
Bryant Elec. Co.
Frankel Connector Co.
Trumbull Elec. Mfg. Co.

CONNECTORS, EXTENSION CORD
Hubbell, Inc., Harvey.

CONNECTORS, FIXTURE
H. B. Sherman Mfg. Co.

CONNECTORS, SLEEVE
Bryant Elec. Co.

CONNECTORS, SOLDERLESS
Dossert & Co.
Frankel Connector Co.
Westinghouse Elec. & Mfg. Co.

CONNECTORS, WIRE
Stover & Co., S. H.

COOKING UTENSILS, ELECTRIC
Westinghouse Elec. & Mfg. Co.

COUPLINGS, SHAFT
General Elec. Co.

CUTOUTS

Arrow Electric Co.
Bryant Elec. Co.
Chicago Fuse Mfg. Co.
General Elec. Co.
Hart & Hegeman Mfg. Co.
Johns-Pratt Co.
Pass & Seymour, Inc.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

DECORATIVE LIGHTING
General Elec. Co.

DYNAMOMETERS
Sprague Elec. Works

EBONY ASBESTOS WOOD
Johns-Manville, Inc.

FANS, A. C. AND D. C.
Emerson Elec. Mfg. Co.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

FANS, HANGERS
Adam Electric Co., Frank

FANS, MOTOR
Emerson Elec. Mfg. Co.
General Elec. Co.
Manhattan Elec. Supply Co.
Robbins & Myers Co.
Sprague Elec. Works.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

FARM LIGHTING GENERATORS
Westinghouse Elec. & Mfg. Co.

FIBRE
Johns-Manville, Inc.

FITTINGS, FIXTURE, IRON
Appleton Elec. Co.
Beardslee Chandelier Mfg. Co.
Bryant Elec. Co.
Fralick & Co., S. R.
General Elec. Co.
Killark Elec. Mfg. Co.
National Metal Molding Co.
Sprague Elec. Works.
Square D Company.
Steel City Electric Co.
Thomas & Betts Co.
Trumbull Electric Mfg. Co.
Westinghouse Elec. & Mfg. Co.

FIXTURES, SHOW CASES AND WINDOWS
Artistic Lig. Fix. Corp'n.
Beardslee Chandelier Mfg. Co.
Farries Manufacturing Co.
Frink, Inc., I. P.
National X-Ray Reflector Co.
Shapiro & Aronson, Inc.

FIXTURE STUDS
Fralick & Co., S. R.
Thomas & Betts Co.

FURNACES, ELECTRIC
General Electric Co.
Westinghouse Elec. & Mfg. Co.

FUSES, ENCLOSED
Bryant Electric Co.
Chicago Fuse & Mfg. Co.
General Electric Co.
Johns-Pratt Co.
Westinghouse Elec. & Mfg. Co.

FUSES, OPEN LINK
Chicago Fuse & Mfg. Co.
General Electric Co.
Westinghouse Elec. & Mfg. Co.

FUSES, TELEPHONE
Chicago Fuse & Mfg. Co.
Western Elec. Co.

GENERATORS, LIGHT AND POWER
Emerson Elec. Mfg. Co.
General Electric Co.
Robbins & Myers Co.
Sprague Electric Works.
Westinghouse Elec. & Mfg. Co.

GLASSWARE
National X-Ray Reflector Co.

GUARDS, LAMP
Hubbell, Inc., Harvey.

HANGERS, ARC LAMP
General Electric Co.
Wakefield Brass Co., F. W.
Westinghouse Elec. & Mfg. Co.

HANGERS, CONDUIT AND CABLE
Appleton Elec. Co.
Minerallac Elec. Co.
Pass & Seymour, Inc.
Steel City Elec. Co.
Thomas & Betts Co.

HANGERS, FIXTURE AND BOX
Westinghouse Elec. & Mfg. Co.

HANGERS, LAMP
Bryant Elec. Co.

HEATERS, LIQUID
General Electric Co.
Westinghouse Elec. & Mfg. Co.

HEATING DEVICES
Commonwealth Edison Co.
Westinghouse Elec. & Mfg. Co.

HIGH TEMPERATURE CEMENTS
Johns-Manville, Inc.

HOLDERS, SHADE
Hubbell, Inc., Harvey.
National X-Ray Reflector Co.

HOLDERS, BATTERY
Ostrander & Co., W. R.
Stanley & Patterson.

INSTRUMENTS, INDICATING
General Electric Co.
Westinghouse Elec. & Mfg. Co.

INSTRUMENTS, LAMP TESTING
General Elec. Co.

INSTRUMENTS, MINIATURE SWITCH-BOARD
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

INSTRUMENTS, POCKET
Connecticut Tel. & Elec. Co.

INSTRUMENTS, RECORDING AND CURVE DRAWING
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

INSTRUMENTS, TESTING
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

INSULATION, MOLDED
Johns-Manville, Inc.
Johns-Pratt Co.
Westinghouse Elec. & Mfg. Co.

INSULATORS, CANOPY
Arthur F. Stanley
General Elec. Co.

INSULATORS, HIGH VOLTAGE
General Elec. Co.
Stanley, Arthur F.
Johns-Manville, Inc.
Westinghouse Elec. & Mfg. Co.

INSULATORS, TREE
Westinghouse Elec. & Mfg. Co.

IRONS, CURLING
Westinghouse Elec. & Mfg. Co.

IRONS, SOLDERING
General Elec. Co.

JOINTS, CABLE
Dossert & Co.
Westinghouse Elec. & Mfg. Co.

JOINTS, FIXTURE INSULATING
Thomas & Betts Co.

LAMPS, ARC
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

LAMPS, AUTOMOBILE
Connecticut Tel. & Elec. Co.

LAMPS, INCANDESCENT

Edison Lamp Works
General Electric Co.
Hubbell, Inc., Harvey
Hygrade Lamp Co.
Johns-Manville, Inc.
National Lamp Works
Novelty Lamp & Shade Co.

LAMPS, PHOTO-ENGRAVING
General Elec. Co.

LAMPS, TROUBLE, AUTOMOBILE, PORTABLE, HAND
Connecticut Tel. & Elec. Co.
Stanley & Patterson.

LIGHTING FIXTURES
Brascolite Company.

LIGHTS, STAGE
Sprague Elec. Wks.
Western Elec. Co.
National X-Ray Reflector Co.

LOCKS, AUTOMOBILE
Connecticut Tel. & Elec. Co.

LOCKNUTS
Fralick & Co., S. R.



Deservedly Popular

AFTER a year on the market the FA Triumph Line of Safety Panel Boards have borne out every prediction made by exhaustive laboratory and factory tests. Today they have established themselves in the satisfaction of thousands of contractors to whom



Triumph Safety Type

has been the last word in complete and modern installation. With ever growing popularity the Triumph Safety Panel Boards bid well to displace many of the less favored live face types. By the unusual unit construction and with increased factory production, the cost has been crowded down to a point where a comparison of cost and values is decidedly in favor of the Triumph Safety Type on every job.

Write for Bulletins No. 26, 29 and 27, covering the Type T-P, Type P (plug-fused branches) and Type R (residence safety type) if your files do not now contain them.

Frank Adam ELECTRIC COMPANY

DISTRICT OFFICES:
Detroit, Dallas,
Minneapolis, Kansas City,
Cincinnati, Cleveland,
New Orleans, Chicago,
San Francisco, Los Angeles,
Seattle, Boston, Pittsburgh,
Philadelphia.

OTHER "F-A" PRODUCTS:
Major System of Theatre Light-
ing Control; knife switches;
safety switches; hanger out-
lets; reversible-cover floor
boxes; A. C. and D. C. Dis-
tribution Switchboards.



NO. 301



NO. 302

Porch Lighting Equipment — SPRING SPECIALS

Here are four new designs of porch lights. These are new and represent the very latest ideas in porch illumination.

SNAPPY—EXCLUSIVE—TASTY— PRICED EXTREMELY LOW

You should have these designs on display. They will sell themselves.

These and many other designs of porch lights shown in our Spring Announcement Bulletin No. 40. Send for it.

Remember that we are specialists in porch lighting equipment. Let us help you solve your porch illumination problems.

Novelty Lamp and Shade Company

DEPT. B

2488 E. 22nd St.,

Cleveland, Ohio



NO. 303



NO. 304

BUYER'S GUIDE—Contin

LUGS, TERMINAL

Dossert & Co.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

MOLDED INSULATION

Johns-Manville, Inc.
Westinghouse Elec. & Mfg. Co.

MOLDINGS, METALLIC

Appleton Elec. Co.
National Metal Molding Co.

MOTOR GENERATORS

General Electric Co.
Sprague Elec. Wks.
Westinghouse Elec. & Mfg. Co.

MOTORS, POWER

Emerson Elec. Mfg. Co.
General Elec. Co.
Robbins & Myers Co.
Sprague Elec. Works.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

OZONIZERS, INDUSTRIAL

Sprague Elec. Wks.

PADS, HEATING

Westinghouse Elec. & Mfg. Co.

PAINTS AND COMPOUNDS

General Elec. Co.
Johns-Manville, Inc.
Mineralac Elec. Co.
Standard Underground Cable Co.
Westinghouse Elec. & Mfg. Co.

PANEL BOARDS

Adams Electric Co., Frank
Johns-Manville, Inc.
Plainville Elec'l. Products Co.
Trumbull Electric Mfg. Co.
Westinghouse Elec. & Mfg. Co.

PERCOLATORS

Westinghouse Elec. & Mfg. Co.

PLANTS, LIGHTING

General Elec. Co.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

PLATES, FLUSH SWITCH

Arrow Electric Co.
Bryant Elec. Co.
Connecticut Tel. & Elec. Co.
Hubbell, Inc., Harvey.

PLIERS, RUBBER INSULATED

Rubber Insulated Metals Co.

PLUGS AND RECEPTACLES

Arrow Electric Co.
Bryant Electric Co.
Chicago Fuse Mfg. Co.
General Elec. Co.
Hart Mfg. Co.
Hubbell, Inc., Harvey
Johns-Manville, Inc.
Johns-Pratt Co.
National Metal Molding Co.
Pass & Seymour, Inc.
Sprague Elec. Wks.
Stanley & Patterson.
Trumbull Electric Co.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

PLUGS, SPARK

Western Elec. Co.

POLE LINE HARDWARE

Johns-Manville, Inc.
National Metal Molding Co.
Westinghouse Elec. & Mfg. Co.

PORCELAIN, STANDARD

General Elec. Co.

PORCELAIN PRODUCTS

Square D Company.

PORTABLES

Beardslee Chandelier Mfg. Co.
National X-Ray Reflector Co.

POSTS, LAMP, ORNAMENTAL

Westinghouse Elec. & Mfg. Co.

POTS, MELTING

General Elec. Co.
Westinghouse Elec. & Mfg. Co.

PROJECTORS, ELECTRIC

General Elec. Co.
National X-Ray Reflector Co.
Western Elec. Co.
Westinghouse Elec. & Mfg. Co.

PROTECTORS, LINEMEN'S

Mineralac Elec. Co.

PROTECTORS, THREAD, CONDUIT

Enameled Metals Co.

PROTECTORS

Connecticut Tel. & Elec. Co.
Mineralac Elec. Co.
Partrick & Wilkins Co.
Stanley & Patterson.

RADIATORS, ELECTRIC

Westinghouse Elec. & Mfg. Co.

RADIO APPARATUS

General Elec. Co.
Martin-Copeland Co.
Ostrander & Co., W. R.
Philadelphia Elec. Co.
Queens Radio Co.
Radio Courses, Inc.
Stanley & Patterson
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.
Zamoiski Co., Jos. M.

RANGES, ELECTRIC

Westinghouse Elec. & Mfg. Co.

REFLECTORS

National X-Ray Reflector Co.

REFLECTORS, PORCELAIN, ENAM.

ELED, IRON AND STEEL
Hubbell, Inc., Harvey.
Westinghouse Elec. & Mfg. Co.

REGULATORS, VOLTAGE

General Elec. Co.
Westinghouse Elec. & Mfg. Co.

RHEOSTATS

General Elec. Co.
Westinghouse Elec. & Mfg. Co.

ROSETTES

Arrow Electric Co.
Bryant Elec. Co.
General Elec. Co.
Hubbell, Inc., Harvey.
National Metal Molding Co.
Pass & Seymour, Inc.
Trumbull Electric Mfg. Co.

SCREW DRIVERS, Rubber Insulated

Rubber Insulated Metals Co.

SHADES, METALLIC

Hubbell, Inc., Harvey.
Ostrander & Co., W. R.

SIGNALS, FACTORY AND OFFICE

Stanley & Patterson.

SIGNS, EXIT

Sprague Elec. Wks.

SOCKETS AND RECEPTACLES

Appleton Elec. Co.
Arrow Electric Co.
General Elec. Co.
Hubbell, Inc., Harvey.
Johns-Manville, Inc.
National Metal Molding Co.
Ostrander & Co., W. R.
Pass & Seymour, Inc.
Sears, H. D.
Stanley & Patterson.
Trumbull Electric Co., Inc.
Westinghouse Elec. & Mfg. Co.

SOLDERLESS CONNECTORS

Frankel Connector Co.

SOLDERING COMPOUNDS

Westinghouse Elec. & Mfg. Co.

STARTERS, MOTOR

General Elec. Co.
Westinghouse Elec. & Mfg. Co.

STERILIZERS, WATER, ELECTRIC

Sprague Elec. Wks.
Westinghouse Elec. & Mfg. Co.

STRAPS AND CLAMPS, CONDUIT

Fralick & Co., S. R.

SWIVES, DISC

Westinghouse Elec. & Mfg. Co.

SUPPLIES, ELECTRICAL

Adam Electric Co., Frank.
Baltimore Elec'l Supply Co.
Brooklyn Elec'l Supply Co.
Doubleday-Hill Elec. Co.
Nat'l. Elec'l Supply Co.
Newark Elec'l Supply Co.
Ostrander & Co., W. R.
Philadelphia Elec. Co.
Roberts Elec. Supply Co., H. C.
Rumsey Electric Co.
Southern Electric Co.
Stanley & Patterson.
Western Electric Co.

SUPPORTS, BOX

Tucker Mfg. Co.

SWITCHBOARDS, LIGHT AND POWER

Adam Electric Co., Frank.
Bryant Electric Co.
General Elec. Co.
Johns-Manville, Inc.
Plainville Elec'l. Products Co.
Sprague Elec. Wks.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.
Wurdack Elec. Mfg. Co.

SWITCH HANDLES, Rubber Insulated

Rubber Insulated Metals Co.

SWITCHES, BABY KNIFE

Bryant Elec. Co.
General Elec. Co.
Trumbull Electric Mfg. Co.

SWITCHES, BATTERY

Hubbell, Inc., Harvey.
Manhattan Elec'l Supply Co.
Ostrander & Co., W. R.
Partrick & Wilkins Co.
Trumbull Electric Mfg. Co.

SWITCHES, DISCONNECTING

General Electric Co.
Westinghouse Elec. & Mfg. Co.

SWITCHES, FIXTURE

Hubbell, Inc., Harvey.
Pass & Seymour, Inc.

SWITCHES, KNIFE

Adam Elec. Co., Frank.
General Elec. Co.
Hart Mfg. Co.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

SWITCHES, SAFETY

Adam Elec. Co., Frank.
General Elec. Co.
Johns-Pratt Co.
Mutual Elec. & Mach. Co.
Square D Company.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

SWITCHES, SNAP

Connecticut Tel. & Elec. Co.
General Elec. Co.
Hart Mfg. Co.
Hubbell, Inc., Harvey.
National Metal Molding Co.
Pass & Seymour, Inc.
Trumbull Electric Mfg. Co.

SWITCHES, TIME, AUTOMATIC

Berry, A. Hall
General Elec. Co.
Mercury Time Switch Co.

SWITCHES, VOLTMETER

Frank Adam Electric Co.
Trumbull Elec. Mfg. Co.
Westinghouse Elec. & Mfg. Co.

TAPE, INSULATING

General Elec. Co.
Johns-Manville, Inc.
N. Y. Insulated Wire Co.
Westinghouse Elec. & Mfg. Co.

TAPS, CURRENT

Hubbell, Inc., Harvey.

TELEPHONES

Connecticut Tel. & Elec. Co.
Stanley & Patterson
Western Elec. Co.

TERMINALS, CABLE

Standard Underground Cable Co.

TERMINALS, TELEPHONE

Standard Underground Cable Co.
Western Elec. Co.

TERMINALS, UNDERGROUND SERVICE

Dossert & Co.

FOASTERS

Westinghouse Elec. & Mfg. Co.

TOOLS, BORING, ELECTRICIAN'S

Stanley & Patterson.

TOOLS, COMMUTATOR TRUING

General Elec. Co.

TOOLS, PORTABLE, HAND

General Elec. Co.

TRANSFORMERS

Connecticut Tel. & Elec. Co.
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

VULCANIZERS, ELECTRIC

Westinghouse Elec. & Mfg. Co.

WARMERS, FOOT AND RUG

Westinghouse Elec. & Mfg. Co.

WASHERS, CLOTHES

Western Elec. Co.

WASHERS, DISH

Western Elec. Co.

WELDING MACHINES, ELECTRIC

General Electric Co.
Westinghouse Electric & Mfg. Co.

WIRE, ANNUNCIATOR AND OFFICE

American Steel & Wire Co.
General Elec. Co.
Hazard Mfg. Co.
Standard Underground Cable Co.

WIRE, ARMORED CABLE

National Metal Molding Co.
Sprague Elec. Wks.

WIRE, AUTOMOBILE

General Elec. Co.
Indiana Rubber & Ins. Wire Co.
N. Y. Ins. Wire Co.
Safety Ins. Wire & Cable Co.

WIRE, BARE COPPER

Standard Underground Cable Co.

WIRE, FUSE

Appleton Electric Co.
Chicago Fuse Mfg. Co.
General Elec. Co.
Westinghouse Elec. & Mfg. Co.

WIRE, IRON

American Steel & Wire Co.

WIRE, LEAD ENCASED

American Steel & Wire Co.
Atlantic Ins. Wire & Cable Co.
General Electric Co.
Indiana Rubber & Ins. Wire Co.
N. Y. Insulated Wire Co.
Standard Underground Cable Co.
Western Elec. Co.

WIRE, MAGNET

American Steel & Wire Co.
Ansonia Electrical Co.
General Electric Co.
Standard Underground Cable Co.
Western Electric Co.

WIRE, RUBBER COVERED

A. A. Wire Co.
American Steel & Wire Co.
Atlantic Ins. Wire & Cable Co.
Boston Ins. Wire & Cable Co.
Detroit Insulated Wire Co.
General Electric Co.
Indiana Rubber & Ins. Wire Co.
N. Y. Insulated Wire Co.
Standard Underground Cable Co.
U. S. Rubber Co.
Western Elec. Co.

WIRE, TELEPHONE

Western Electric Co.

WIRE, WEATHERPROOF

American Steel & Wire Co.
Ansonia Electrical Co.
General Electric Co.
Western Elec. Co.

WIRELETS

Steel City Elec. Co.



The Logical Fitting

The practical man knows there are many savings gained in demanding "Unilets" for every conduit installation. They are pressed of steel and not subject to breakage in either handling or shipping. This construction makes possible greatly increased wiring space with no increase in the size of the fitting. Further, it is light in weight for easy handling and effects savings through decreased shipping charges.

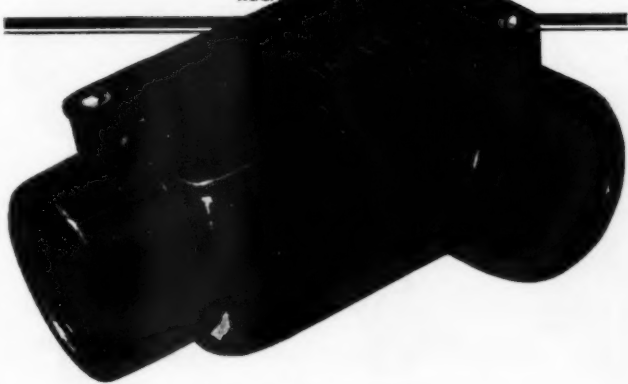
There is a style for every requirement and the "Unilet" handbook with its convenient pictorial index saves time in planning installations and assures the correct treatment of every wiring problem. Look for the name APPLETON—if it isn't an APPLETON it isn't a "UNILET."

APPLETON ELECTRIC COMPANY

General Offices and Factory
1704 Wellington Avenue, at Paulina
CHICAGO

"UNILETS"

REGISTERED



For Industrial Wiring

The safest and most economical method of protecting electric wires in all types of industrial wiring where extreme flexibility is desired, is the Flexsteel way.

Because Flexsteel is a flexible metallic conduit made to meet extreme bending possibilities without kinking or breaking open. And the smooth flat interior surface makes fishing of wires easy.

Write for literature and prices

National Metal Molding Company

1348 FULTON BUILDING
PITTSBURGH

Represented in All Principal Cities

13

Flexsteel



RAVEN CORE—A Rubber Covered Wire of Distinction!

Made by a house of standing.

Specified by all the leading architects.

Used by the Contractors who do the better grade of work.

Can you afford to overlook it?

NEW YORK INSULATED WIRE CO.

Main Office: NEW YORK

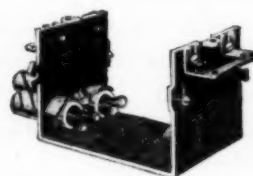
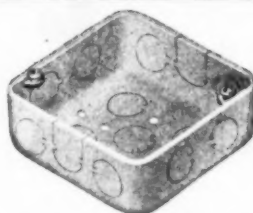
Factory: WALLINGFORD, CONN.

DENVER

SAN FRANCISCO

CHICAGO

BOSTON



IT PAYS TO USE "THE QUALITY LINE"



HAVE YOU OUR CATALOG NO. 33 E?
WRITE FOR LITERATURE ON

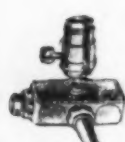
Wirelets



Steel City
PITTSBURGH



Electric Co.
PENNSYLVANIA



OHIO BRUSH KITS

NO. 1 KIT—
300 Brushes,
120 Springs,
Cost \$15.30.

NO. 2 KIT—
150 Brushes,
60 Springs,
Cost \$8.50.



How To Change A Dollar Bill Into A Five-Spot—

MAGIC? No, neither is it forgery to make this transformation. The 400% profit in Ohio Carbon Brush Kits is the means of making your dollar bill stretch five times the amount. The demand is fast and furious, for with the millions of small horse power motors in daily use, millions of brushes must be ready to replace the worn ones.

Everything is at your fingertips. No whittling of the ends necessary. Brushes and springs in separate compartments.

QUALITY ASSURED—THE SAME AS OHIO INDUSTRIAL AND AUTOMOTIVE BRUSHES HAVE PROVED TO BE EVER SINCE WE STARTED IN BUSINESS.

THESE REPRESENTATIVES WILL SUPPLY YOU:

Boston, Mass.
A. F. McCarthy,
65 Oliver St.

Cincinnati, Ohio.
Jas. R. Jordan, Jr.
217 E. 3rd St.

Kansas City, Mo.
C. M. Clifton,
214 Massachusetts
Building.

Minneapolis, Minn.
A. J. Pyle,
2457 Lyndale Ave. S.

Chicago, Ill.
Royal A. Stemm,
1311 Steger Bldg.,
28 E. Jackson Blvd.

Evansville, Ind.
F. W. Sieffert,
319 Sycamore St.

Los Angeles, Cal.
A. W. Arlin,
Central Bldg.

New York, N. Y.
T. J. Crofton,
280 Broadway.

Iowa State Repr.
Leonard C. Kohn,
2019 Farnam St.,
Omaha, Nebr.

Milwaukee, Wis.
Ohio Carbon Co.,
439 15th Avenue

St. Louis, Mo.
L. E. Jaques,
5553 Vernon Ave.

**400%
Profit**

OHIO CARBON COMPANY

8210 Almira Ave.,

Cleveland, Ohio

"DIAMOND H"

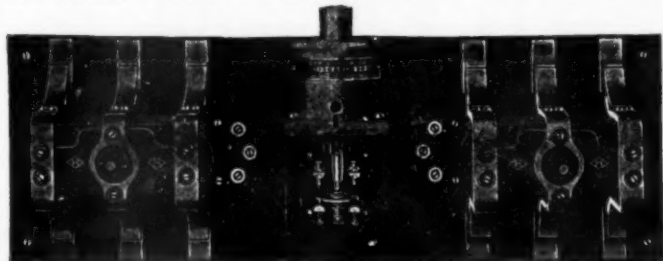
REMOTE CONTROL SWITCHES
LAMINATED BRUSHES
IRONCLAD MECHANISM
SELF CLEANING CONTACTS

FOR
ALTERNATING
CURRENT



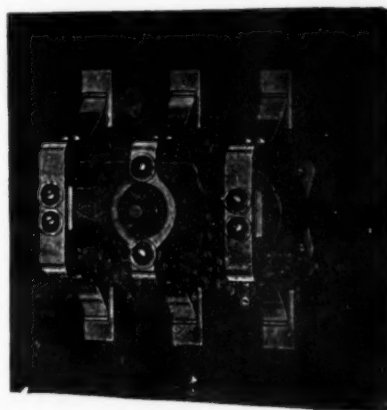
FOR
DIRECT
CURRENT

DOUBLE POLE—THREE POLE—FOUR POLE



Double Throw Combination

For two sources of supply with common load. Transfers automatically upon failure of one source.



Type "F" 3-Pole Back Connected
Remote Control Switch

Double Pole			TYPE "F"		Triple Pole	
Catalog Number	Ampere Capacity	List Price	Catalog Number	List Price	Catalog Number	List Price
730	30	\$36.00	790	\$43.20		
740	60	48.00	800	54.00		
750	75	60.00	810	67.20		
760	100	93.00	820	108.00		
770	150	108.00	830	124.80		
780	200	122.40	840	139.20		

Write for Catalogue and Discount Sheet

Made by

THE HART MANUFACTURING CO.
HARTFORD, CONN.,
U. S. A.

**10¢
plus
5
minutes**

JOBBER AND DEALERS!

HOW WOULD YOU FASTEN END OF
LATH NEXT TO BOX ON THIS JOB?



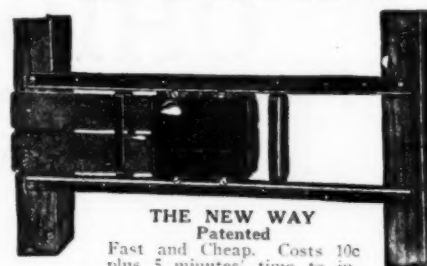
THE OLD WAY

Slow and Expensive. Costs
50c to 75c to install box.

Do better work
and make more
money on each
job.

Use KRUSE Switch
Box Supporting
Strips and Lath
Holders.

NOTICE THE LATH HOLDERS



THE NEW WAY
Patented

Fast and Cheap. Costs 10c
plus 5 minutes' time to in-
stall box.

Send \$1 for 12 Sets to be delivered by parcel post.

MIDWEST METAL PRODUCTS CO.

MUNICE, INDIANA

NEEDLE ANNUNCIATORS

Hotel, House, Car
Marine, Elevator
Automatic

Self-Restoring
Individual Set-Back
Return Call Systems
Telephone Systems
Fire Alarm Systems
Hospital Systems

Apartment House
Systems
Etc., Etc.

Annunciators and *Electrical* House Goods

Manufactured by

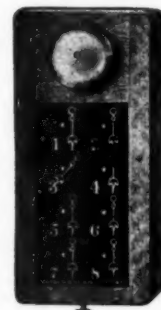
PARTRICK & WILKINS CO.

Established 1867

51 N. Seventh Street,

Philadelphia

*Our Annunciators and House Goods in Stock
and for Sale by Dealers Everywhere*



Opportunities

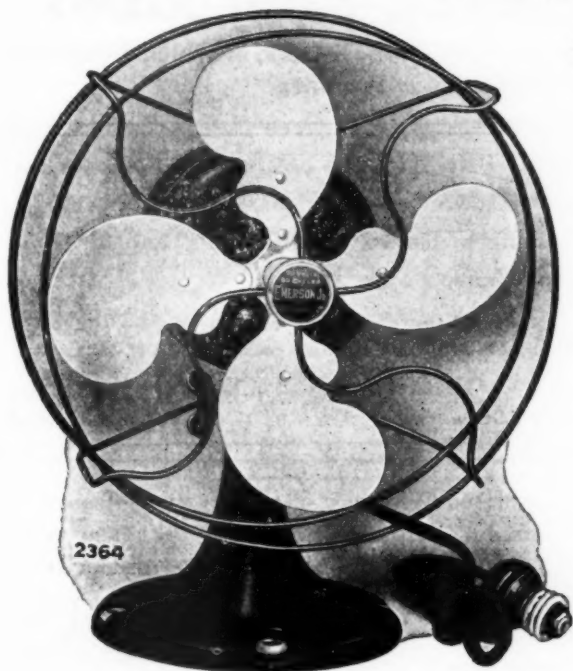
are in these pages every month. Do you take
advantage of those offered by our advertisers?

EACH NUMBER OF THIS PUBLICATION IS
A COMPOSITE CATALOG OF NEW AND
USEFUL THINGS FOR THE CONTRACTOR-
DEALER, AND FOR THOSE WHO ARE EN-
GAGED IN THE ELECTRICAL INDUSTRY

Every person connected with your business should
read every issue of this publication—

For Profit

***Make your 1923 contract for the Emerson Fan Line
including Emerson Junior***



The best fan value ever offered.

A 9-inch induction fan with
EMERSON QUALITY All Through
and the
EMERSON 5-YEAR GUARANTEE

The Emerson Line includes Oscillating,
Non-Oscillating and Ceiling Fans
for A.C. and D.C.—All with the Factory's
5-Year Guarantee.

Carried in Stock by Seventy Jobbers.

The Emerson Electric Mfg. Company

2018 Washington Avenue, St. Louis, Mo.

50 Church Street, New York City

The Emerson Company Sells no Apparatus at Retail.



We beg to announce that we are NOW in a position to supply

ENAMELED MAGNET WIRE

of the highest grade in sizes ranging from No. 7 to No. 38 B. & S. Ga.

We would appreciate a trial order.



We also manufacture **Weatherproof, Slow Burning, Annunciator, Office and Magnet Wires and Cables**
and **Stranded Antenna Wire**

ACME, EUREKA, AND WIZARD IRON AND WOOD BOX BELLS AND BUZZERS

Annunciators and Push Buttons

"Daisy" Floor Treads

The Ansonia Electrical Company, Ansonia, Conn., U. S. A.

Every Thing from Generator to Lamp

H. C. ROBERTS ELECTRIC SUPPLY CO.

PHILADELPHIA, PA.

1101-5 Race Street

Cor. W. Water and N. Franklin Streets,
SYRACUSE, N. Y.

806 Twelfth Street, N. W.
WASHINGTON, D. C.



ELECTRICAL SUPPLIES

AUTOMOTIVE EQUIPMENT

"Buy Electrical Supplies from Electrical Supply Jobbers"

QUICK REFERENCE LIST for the Convenient Use of Contractor-Dealers, in which Electrical Supply Jobbers in various Sections invite Your Patronage

SOUTHERN ELECTRIC CO.

Distributing Jobbers

Electrical and Radio Supplies

Richmond **BALTIMORE** Norfolk

Distributors for General Electric Company, Radio Corporation of America, and other large and reputable manufacturers.

OHIO BRUSH KITS are just the thing for repair jobs on electric fans, vacuum sweepers, washing machines, electric drills, and all fractional horse power motors.

Try a KIT now and make \$42 on an \$8.50 investment or twice the amount on a \$15.30 investment.

OHIO CARBON COMPANY

8215 Almira Ave,

Cleveland, Ohio

OVER Forty Years of Constant Observation and Study of Your Requirements in Electrical Supplies.

National Electrical Supply Company

DISTRIBUTORS—JOBBER

1328-30 New York Ave., Washington, D. C.

More than 100,000 Square Feet of Floor Space.
Large Stock. Prompt Shipments.
QUALITY! SERVICE!

Insulated Wire and Cable for every transmission purpose—not made to meet a price, but with the idea of rendering maximum service to the purchaser and of reflecting maximum credit to the contractor who uses it.

SAFETY INSULATED WIRE & CABLE CO.

114 Liberty Street, New York City

For Service—

RUMSEY ELECTRIC COMPANY

1007 ARCH ST., PHILADELPHIA

Distributors

Electric Supplies and Machinery

SUBSCRIBE FOR THIS MAGAZINE TODAY AND RECEIVE THE REPORTS OF ASSOCIATION ACTIVITIES IN EVERY ISSUE

Published Monthly.

\$2.00 a Year.

NATIONAL ELECTRAGIST

15 West 37th Street,

New York City

LARGE STOCK

PROMPT SHIPMENT

Oldest and Largest Electrical Supply Jobbers in New Jersey

Newark Electrical Supply Co.

"The House of Quick Service"

223 Market Street

Newark, N. J.

Yours for Co-operation

Brooklyn Electrical Supply Co.

56 Myrtle Ave., Brooklyn, N. Y.

25 YEARS' RELIABLE SERVICE—

Complete Stocks, High Grade Electrical Supplies, I.X.L. Rubber Covered and W.P. Wires, Bryant, Hubbell and Arrow E Specialties, Unilet Conduit Fittings, Edison Mazda Lamps, Manning Bowman Heating Devices, Crystal and Rotapex Washing Machines, Sweeper-Vac and Apex Cleaners, Capitol Ironers, Gould Storage Batteries, Radio Supplies, etc.

DOUBLEDAY-HILL ELECTRIC CO.

WHOLESALE

Pittsburgh, Pa.

Washington, D. C.

Deal with a jobber that has always recognized the electrical contractor and where you can depend upon

HIGHEST GRADE OF ELECTRICAL MATERIALS

Right Prices and Immediate Delivery

Baltimore Electrical Supply Co.

BALTIMORE, MD.

Where to Purchase Lighting Fixtures

READY REFERENCE LIST of Lighting Fixture Manufacturers for the convenience of Electrical Contractor-Dealers.

We would like to show you how easy it is to get the profits from the industrial lighting field and how easy it is to keep them coming your way. Write our nearest district office or direct.

WESTINGHOUSE ELECTRIC & MFG. CO
George Cutter Works, South Bend, Ind.

There are hundreds of opportunities for the installation of Beardslee lighting fixtures in private houses, apartment houses, offices, banks, factories, hospitals, schools and other institutions right in your own city.

WRITE FOR CATALOGS AND SALES HELPS.

Beardslee Chandelier Mfg. Co.
231 So. Jefferson Street, Chicago, Ill.

Intelligent supervision and infinite care give us confidence to say of Hygrade:

"YOU CANNOT BUY A BETTER LAMP."

HYGRADE LAMP CO.

General Office and Factory,
SALEM, MASSACHUSETTS

Our aim is to distribute only Quality Electric Products and we are always ready to serve your requirements.

**THE PHILADELPHIA ELECTRIC
COMPANY SUPPLY DEPARTMENT**
130-132 So. Eleventh St., Philadelphia, Pa.

You SHOULD Use
Universal Estimate Sheets

They Simplify Your Estimating

SUPPLIED BY
**ASSOCIATION OF ELECTRAGISTS
INTERNATIONAL**

Formerly National Association of Electrical Contractors and Dealers.

15 West 37th Street, New York



DESIGNERS
and
MANUFACTURERS
of

LIGHTING FIXTURES

ARTISTIC LIGHTING FIXTURE CORP.

Display Rooms
136 Bowery

21-5 East Houston St.
New York City



A complete line of
Adjustable Electric
Brackets, Portables and Metal Shades
VERDELITE PORTABLES

Catalog No. 27.

Prompt shipments from a complete stock of Original, Artistic and Economical Fixture Trimmings, Gas Electric and Combination Brass Fittings, Stampings, Spinings, Castings and Parts for Fixture Manufacturers and Dealers. Catalog No. 26.

FARIES MANUFACTURING COMPANY
DECATUR, ILLINOIS



No. 5355
DESIGN PATENT

Shapiro & Aronson, Inc.

Lighting Fixture Manufacturers

Build your business with S. & A. Standardized Lighting Fixtures in Standardized Finishes. They combine the "made-to-order" look with prices rivaling those offered on ordinary "ready-made" fixtures.

20 Warren Street,

New York City

MORE SALES

—IF YOU SPECIFY—

X-Ray Reflectors

—FOR—

Show Window Lighting

NATIONAL X-RAY REFLECTOR COMPANY

NEW YORK

CHICAGO

SAN FRANCISCO

I. P. FRINK

Incorporated

REFLECTORS

DESIGNERS AND MANUFACTURERS OF
SCIENTIFIC AND ARTISTIC LIGHTING SPECIALTIES
24th Street and 10th Avenue, New York, N. Y.

Chicago, Ill.,
Monadnock Bldg.
Boston, Mass.,
161 Summer St.
Detroit, Mich.,
325 State St.

San Francisco, Cal.,
77 O'Farrell St.
Cleveland, Ohio,
336 The Arcade
Seattle, Wash.,
609 Seaboard Bldg.

Philadelphia, Pa.,
Franklin Trust Bldg.
Cincinnati, Ohio,
17 Greenwood Bldg.
Louisville, Ky.,
415 W. Main St.

DISTRIBUTOR  PRODUCTS

The sale of

G-E Fans

*will be bigger this year
than ever.*

Start now to lay your plans.

*We will be glad to send
you complete data covering this
unusual campaign.*

THE PHILADELPHIA ELECTRIC
COMPANY SUPPLY DEPT.
130-132 South Eleventh Street
Philadelphia



Insulated wire and cable for
every transmission purpose—
not made to meet a price, but
with the idea of rendering maxi-
mum service to the purchaser
and of reflecting maximum credit
to the contractor who uses it.

Safety Insulated Wire and Cable Co.

114 Liberty Street
NEW YORK

Neither too large nor too small

One of the reasons for the high quality
of HYGRADE lamps is that they're made
in just the right kind of a plant—neither
too large nor too small.

Large enough to take advantage of the
economy and precision of modern auto-
matic machinery.

Small enough to enable the owners to
be in intimate touch with every detail of
the work.

Large enough to use up-to-date, eco-
nomical methods of organization and pro-
duction with specialists in charge of every
department.

Small enough so that executives, depart-
ment heads and foremen know each other
intimately and work together as friends
and co-partners towards the one end of
maintaining and advancing the HYGRADE
standard of Quality.

You Cannot Buy a Better Lamp
Than Hygrade

HYGRADE LAMP CO

GENERAL OFFICE
AND FACTORY



SALEM MASS

PARANITE

RUBBER COVERED WIRES AND CABLES
THE STANDARD FOR THIRTY YEARS



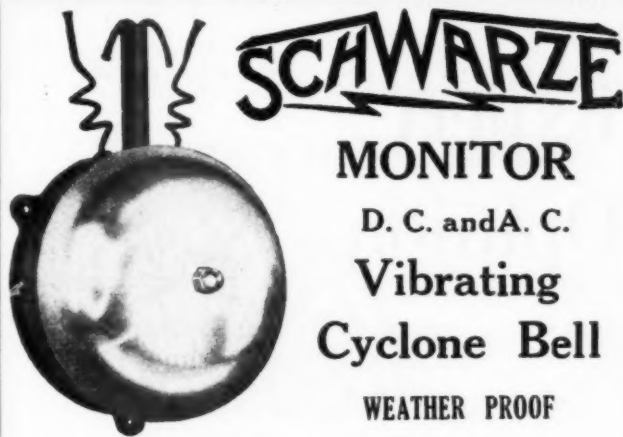
For all purposes. Inside, Outside, Aerial,
Underground and Submarine Use.

IF IT'S **PARANITE** IT'S RIGHT

INDIANA RUBBER & INSULATED WIRE CO.
JONESBORO, INDIANA

New York Representatives:
The Thomas & Betts Co.,
63 Vesey St. New York City

Chicago Branch:
Indiana Rubber & Insulated Wire Co.
210 So. Desplaines St., Chicago



SCHWARZE

MONITOR

D. C. and A. C.

Vibrating Cyclone Bell

WEATHER PROOF

Type No. 62 For Direct Current

Type No. 72 For Alternating Current

FURNISHED WITH 8-INCH GONG ONLY

For operation on 250 volts or less Alternating and Direct Current.

Has all terminals and current-carrying parts heavily insulated from frame and securely inclosed in metal case. For multiple operation only.

Always Give Voltage of Circuit When Ordering.

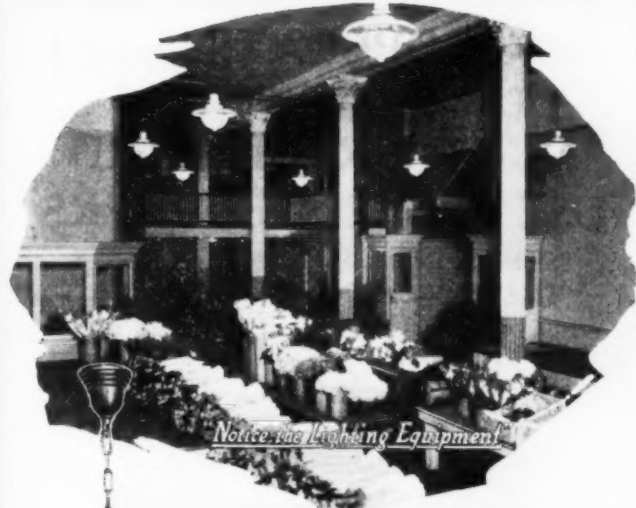
WRITE FOR PRICES AND BULLETIN

Manufactured by

SCHWARZE ELECTRIC CO.

ADRIAN,

MICHIGAN



Painting the Lily

To say that Denzars add beauty to the Poehlmann Brothers Company store, 163 No. Wabash Ave., Chicago, where every bud and blossom abounds in beauty would be akin to painting the lily. Here ample, well-diffused, glareless illumination that will speed up the sorting, counting and wrapping of thousands of dozens of cut flowers every day is absolutely essential.



To obtain this the Freeman-Sweet Company of Chicago installed 10 No. 11 Denzars on the main floor, illustrated above, and 13 No. 101 in the basement and the business of Saying it with Flowers proceeds with modern day rapidity.

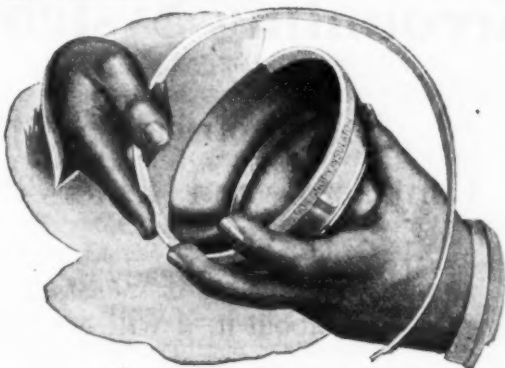
If you need help to get such Denzar business just say so in a letter. Let's make your town "Notice the Lighting Equipment."

Beardslee Chandelier Mfg. Co.

231 SO. JEFFERSON ST.

CHICAGO, ILLINOIS

Knu Canopy Insulator



Approved by Underwriters' Laboratories

Can be applied to canopy without the use of tools

in rolls of 10 feet.

ARTHUR F. STANLEY

SELLING AGENT

West & Hubert Sts.

New York

Telephone 5200 Canal

"CENTRAL"

RIGID STEEL

CONDUIT

A GUARANTEED conduit which will always give satisfaction and answer your wiring requirements.



This shows one-half inch "Central White" bent and kinked like a piece of wire. It stood this hardest test perfectly; the weld remaining intact and the galvanizing retaining its coating without cracking.

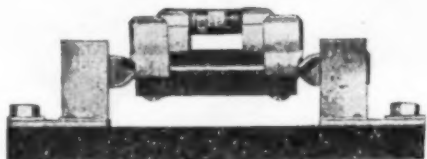
"Central White"-----galvanized

"Central Black"-----enameled

CENTRAL TUBE CO.

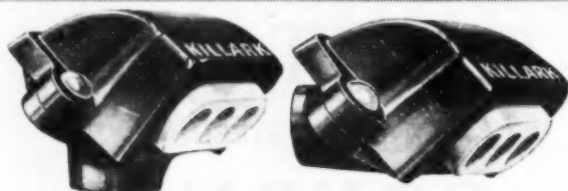
PITTSBURGH, PA.

**CO-OPERATE WITH
THE UNDERWRITERS
REDUCE THE FIRE HAZARD
USE FUSE REDUCERS
TO PROPERLY PROTECT CIRCUITS
THE INCREASING DEMAND FOR
THIS DEVICE IS EVIDENCE OF THEIR NEED**

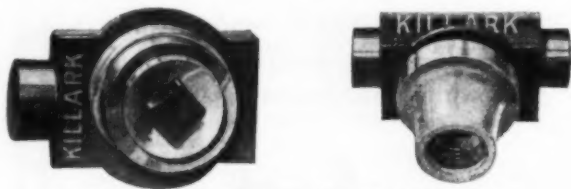


Number	Volt	Amp.	*List Ea.	Carton
FR 265	250	60-30	\$0.90	18
FR 216	250	100-60	1.50	9
FR 221	250	200-100	2.00	9
FR 663	600	60-30	1.00	9
FR 616	600	100-60	1.75	9

THE PLAINVILLE ELECTRICAL PRODUCTS CO.
PLAINVILLE, CONN.
SWITCHBOARDS—PANEL BOARDS



REVERSIBLE ENTRANCE FITTINGS
for use on a vertical or a horizontal pipe



All Kinds of Fittings for Rigid Conduit



"ELECTROLET"
Conduit Fittings

Write for Booklet

KILLARK ELECTRIC MFG. CO.
Easton and Warne Avenues, St. Louis, Mo.

Expert Opinion

"When it comes to simplicity, I want to say that I have never seen anything equal to this book-keeping system. It is one of the best things I have ever seen."

*So says Frank Stockdale,
an acknowledged authority on business efficiency.*

He was speaking
of the

New Standard Accounting System

For Electrical
Contractors and Dealers

If you don't already
know about it, it will
pay you to make inquiry through the

**ASSOCIATION OF ELECTRAGISTS
INTERNATIONAL**

Formerly National Association of Electrical Contractors
and Dealers.

15 West 37th St.

New York City

Rubber Insulated Wires and Cables



**National Electrical Code Standard
Intermediate (Red) Thirty Per Cent**

Wire built under the direct supervision of experienced engineers, skillfully and honestly manufactured with one purpose and result.

Continuous Service

A-A WIRE CO., Inc.

FACTORY: NEWARK, N. J.

Sales Offices: 50 East 42nd Street,
New York City

We Manufacture:—

**Rubber Covered Wire—Solid Conductor,
Stranded Conductor, Flexible Conductor.
Extra Flexible Conductor.**

**Lamp Cords, Reinforced Cords, Heater
Cord, Brewery Cord, Canvasite Cord, Packing-
house Cord.**

**Deck Cable, Stage Cable, Border Light
Cable, Flexible Armored Cable.**

**Elevator Lighting Cable, Elevator Operating
Cable, Elevator Annunciator Cable.**

**Switchboard Cables, Telephone Wire,
Flameproof Wires and Cables, Railway Signal
Wires, High Voltage Wires and Cables.**

**Automobile Ignition Cables, Automobile
Lighting Cables, Automobile Starting Cables,
Automobile Charging Cables.**

Moving Picture Machine Cable.

Boston Insulated Wire & Cable Co.

Main Office and Factory:

Dorchester District

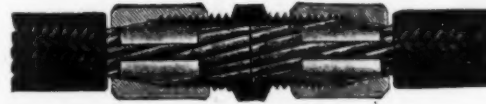
Boston, Mass.

Canadian Branch

Office and Factory:

Hamilton, Ont.

Dossert Connectors



Making solderless connections 2-way, showing detail.

How You Can Save

The Dossert Solderless, is the standardized method of making electrical connections—because the Dossert Tapered Sleeve principle is the accepted method of giving better conductivity at the joint than in the wire itself.

The Dossert 15th Year Book shows you the economy of using these connectors for all your wiring.

GET THIS BOOK



FREE

Dossert & Co.

242 West 41st St.
New York, N. Y.



The Contractor

wants a conduit with clean threads and smooth interiors so that he can install and fish it easily. And for the sake of his customer he wants a conduit protected from rust.

Clifton Conduit

Enameled or Galvanized,

is a practical conduit exactly suited to the contractor's needs. It is made from high-grade steel pipe carefully enameled or galvanized to protect it from corrosion. And the threads are sharp.

Clifton Manufacturing Co.

BOSTON, 61 Brookside Ave. 30

NEW YORK, 26 Cortlandt Street

BUFFALO, 34 Sayre Street

SAN FRANCISCO, 509 Mission Street

CHICAGO, 9 So. Clinton Street

Friction Tape.

Splicing Compound.

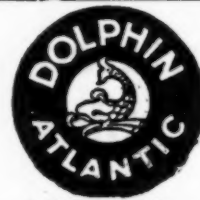
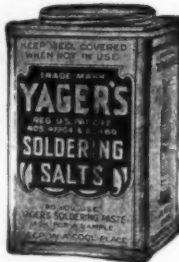
YAGER'S

Trade Mark Registered

SOLDERING SALTS

Buy it of your Jobber in $\frac{1}{2}$ lb., 1 lb.,
and 5 lb. Blue and White Enameled
Cans. Write for prices.

ALEX R. BENSON CO., Inc.
HUDSON, N. Y.



ATLANTIC

Insulated Wires

Atlantic Insulation is notable
for its dependability and maxi-
mum service.

DOLPHIN, Code; TRITON,
Intermediate Grade 25% Para;
and NEPTUNE, 30% Para; are three widely known
and extensively used Atlantic Wires.

If you want to build or hold a reputation for quality
work, see that "Atlantic" goes in the job.

Price lists and discounts upon request.

ATLANTIC Insulated Wire & Cable COMPANY

General Sales Office:

52 Vanderbilt Avenue,

New York City

Factory: Stamford, Conn.



SUPERIOR CONDUITS

AMERICAN CIRCULAR LOOM CO.

90 West St., New York

Boston
Chicago

Los Angeles
San Francisco

Seattle
Toronto



A MARK OF QUALITY

Buy Conduit Fittings by this
mark. They are better than
others and cost no more.

S. R. FRALICK & COMPANY

15 SOUTH CLINTON STREET :: CHICAGO

Americore

RUBBER-COVERED

Wire

for interior wiring

All sizes and voltages.

Thoroughly reliable. Safe.

Underwriters' inspection and endorsement

Illustrated catalogue—free

American Steel & Wire

CHICAGO
NEW YORK

Company

"DETROIT"

RUBBER COVERED WIRES

Rubber Insulated Wires and Cables

FOR EVERY ELECTRICAL PURPOSE

DETROIT INSULATED WIRE CO.

DETROIT, MICH.

UNIVERSAL ESTIMATE SHEETS

: : : :

They Simplify Your Estimating

Get a Supply
from

ASSOCIATION OF ELECTRAGISTS
INTERNATIONAL

Formerly National Association of Electrical Contractors
and Dealers.

15 West 37th St.,
New York

The 100% Electrician Says:



Approved by the
Underwriters



When the manufacturer of Electric Fixtures equips his products with Sherman Fixture Connectors he improves his product and accommodates you. **INSIST.**

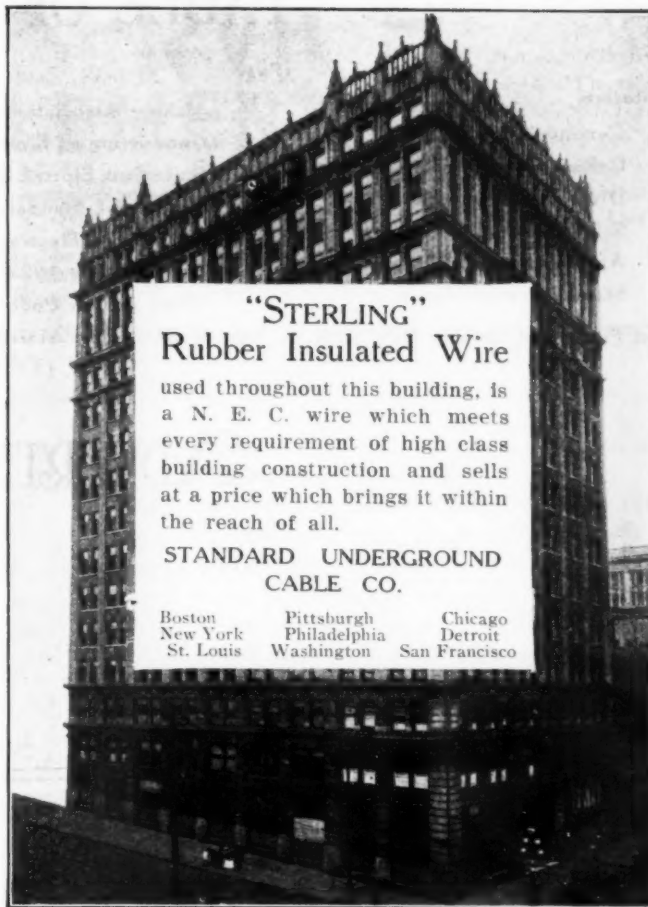
H. B. SHERMAN MFG. CO.
BATTLE CREEK MICHIGAN

"I can make connections in a jiffy with the

Sherman Fixture Connector

Sherman Fixture Connectors are all brass—assuring high conductivity. The screws can't come out—that saves time. They are simple—you can't get the wires in the wrong place. You need no acid, solder or blow torch—a tight connection is always assured.

Send for FREE sample of the Sherman Fixture Connector and try it. They are sold by all progressive jobbers.

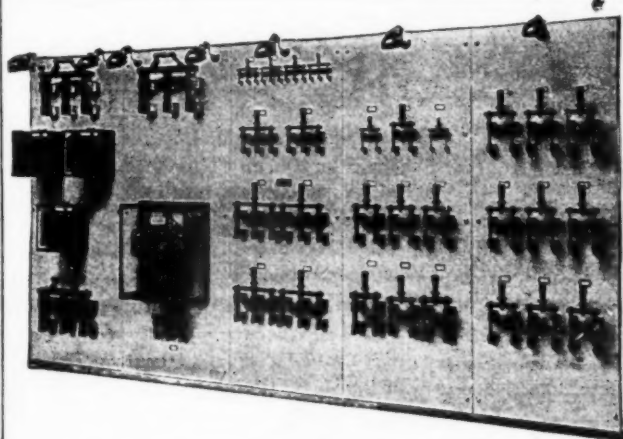


"STERLING" Rubber Insulated Wire

used throughout this building, is a N. E. C. wire which meets every requirement of high class building construction and sells at a price which brings it within the reach of all.

STANDARD UNDERGROUND
CABLE CO.

Boston	Pittsburgh	Chicago
New York	Philadelphia	Detroit
St. Louis	Washington	San Francisco



WV WURDACK WV
SWITCHBOARDS

PANEL BOARDS
STEEL CABINETS
KNIFE SWITCHES
LET US

FIGURE YOUR
REQUIREMENTS.

**WM. WURDACK
ELECTRIC MFG. COMPANY**
ST. LOUIS, MO.

A Simple Time Switch

Service of time switches costs the dealers money. This has been overcome in the Mercury Time Switch by its utter simplicity of design and its liquid Mercury contact which eliminates all friction, arcing and corrosion. All parts are easily accessible, as the switch is not geared to the clock movement.

These exclusive features do away with the trouble often experienced by time switch users and make Mercury Automatic Time Switches a profitable and ready seller. We guarantee the Mercury Time Switch, not merely for one year, but for the life of the clock movement. It will stand up under all weather conditions—the supreme test of any time switch.

—Free Trial—

We will send a Mercury Automatic Time Switch to any reliable electric dealer for FREE trial.

Order one today. Test it thoroughly and to your complete satisfaction. We will gladly send complete details of our proposition, liberal discounts, etc.

Write NOW!

Mercury Time Switch Co.

31 East Woodbridge St., Detroit, Michigan

EASTERN REPRESENTATIVES:

Manufacturers Distributing Company,
291 Broadway, New York City, N. Y.

TABLE OF CONTENTS

	Page		Page		Page
Editorials	17	Making Association Work Effective	21	A. E. I. Conventions	
Commissioner Eidlitz		Conducting an Illumination Campaign	22	Davis in Greater New York	
Calling a Spade a Spade		Important Electric Home Exhibits	23	Midwest Meetings	
Divisional Conventions		Electrict Standards Increase Profit	25	Allentown Has Big Show	
Sell Individual Personality		Where the Electricist Stands	27	New Brooklyn Club Formed	
An Encouraging Outlook		Scenes in the 1923 Convention City	29	Minimum Wiring Standard	
Standardization Again		Chats on the Code	31	Convention Dates	
Cost Finding in Greater New York	19	Organization Activities	32	Second Edition E. M. F. Book	
				News Notes	
				Manufacturing	42

ADVERTISING INDEX

	Page		Page		Page
A		G		P	
A. A. Wire Co.	69	General Electric Co.	15 and 16	Patrick & Wilkins Co.	62
Adam Electric Co., Frank	57			Paulding Co., John I.	6 and 7
Alphaduct Co.	54	H		Phila. Electric Co., Supply Dept.	66
American Circular Loom Co.	70	Hart Mfg. Co.	61	Plainville Elec'l Products Co.	68
American Steel and Wire Co.	70	Hygrade Lamp Co.	66		
Ansonia Electrical Co.	63			Q	
Appleton Electric Co.	59	I		Queens Radio Co.	Radio Suppl.
Arrow Electric Co.	8	India Rubber & Insulated Wire Co.	65		
Artistic Lighting Fixture Corporation	65			R	
Atlantic Insulated Wire & Cable Co.	70	J		Robbins & Myers Co.	4
		Jobbers' Quick Reference	64	Roberts Elec. Supply Co., H. C.	63
B		Johns-Manville, Inc.	13	Radio Service Supplement	73
Baltimore Electrical Supply Co.	64	Johns-Pratt Company	49	Rumsey Elec. Co.	64
Beardslee Chandelier Mfg. Co.	67			Rubber Ins. Metals Co.	2
Benson, Alex. R.	70	K			
Block & Co., Lynton T.	30	Killark Elec. Mfg. Co.	68	S	
Boston Insulated Wire & Cable Co.	69			Safety Insulated Wire & Cable Co.	66
Bryant Electric Co.	5	L		Schwarze Electric Co.	67
Buyers' Guide	56, 58	Lighting Fixture Ready Reference	65	Sears, Henry D.	53
				Shapiro & Aronson, Inc.	65
C		M		Sherman Mfg. Co., H. B.	71
Central Tube Co.	67	Market Place	55	Society for Electrical Development	48
Chicago Fuse Mfg. Co.	47	Minerallac Elec. Co.	Radio Suppl.	Southern Electric Co.	64
Clifton Mfg. Co.	69	Martin-Copeland Co.	Radio Suppl.	Sprague Electric Works	14
Connecticut Tel. & Elec. Co.	Radio Suppl.	Mercury Time Switch Co.	71	Square D Company	12
		Midwest Metal Product Co.	62	Standard Accounting System	3rd Cover
D				Standard Underground Cable Co.	71
Detroit Insulated Wire Co.	70	N		Stanley, Arthur F.	67
Dossert & Co.	69	National Executive Committee	46	Stanley & Patterson	Second Cover
		New York Insulated Wire Co.	60	Steel City Electric Co.	60
E		Nat'l Metal Molding Co.	59	Stover Co., S. H.	Radio Suppl.
Edison Lamp Works	Back Cover	Nat'l X-Ray Reflector Co.	45		
Emerson Elec. Mfg. Co.	63	Nat'l Elec'l Supply Co.	64	T	
Enameled Metals Co.	54	Newark Elec'l Supply Co.	64	Thomas & Betts Co.	52
		Novelty Lamp & Shade Co.	57	Trumbull Electric Mfg. Co.	9
F				Tubular Woven Fabric Co.	3
Faries Mfg. Co.	65	O			
Frailick & Co., S. R.	70	Ostrander & Co., W. R.	52	U	
Frink, Inc., I. P.	65	Ohio Carbon Co.	61	U. S. Rubber Co.	1
				W	
				Wakefield Brass Co., F. W.	Front Cover
				Western Electric Co.	3
				Westinghouse Elec. & Mfg. Co.	10, 11
				Wurdack Electric Mfg. Co., Wm.	71
				Z	
				Zamoiski Co., Jos. M.	Radio Suppl.

RADIO SERVICE SUPPLEMENT TO THE NATIONAL ELECTRAGIST

Yearly subscriptions to the National Electragist, which includes The Radio Service Supplement as a part of its regular issue, \$2.00 a year.

PUBLISHED ON THE FIRST OF EVERY MONTH

All Communications Should Be Addressed to
NATIONAL ELECTRAGIST RADIO SERVICE SUPPLEMENT
15 West 37th Street, New York City

National Electragist, formerly Electrical Contractor, was established 21 years ago as the official journal of the National Association of Electrical Contractors.

MAY, 1923

Broadcasting Copyrighted Music

At the radio conference held in Washington late in March the Association of Music Publishers sought the payment of \$5,000 from each large broadcasting station sending out copyrighted music. It was stated on the part of the music publishers that the broadcasting of this music cut down the sales of sheet music, phonograph records, and player piano rolls to a great extent.

As a result of this a number of the larger stations are now refusing to broadcast any copyrighted music in any form. The first few concerts that have come through with the uncopyrighted music have been pretty sad and dreary and it is safe to say that such an arrangement cannot continue if radio broadcasting is to continue to be the success it has been.

The argument of the music publishers is on the face of it ridiculous nonsense. There is not a home that is equipped with a receiving set that has not bought many dollars worth of music in one form or another after hearing it on the radio. No piece of music can be a financial success till people have heard it and hearing it once whets the appetite for more. Music publishers for years have used every effort to get well known singers and players to use a piece in an act and most all music houses go to the expense of printing special professional copies to distribute to the theatrical and musical profession. The greatest money-makers in the musical world, such as the Merry Widow Waltz, Chicago, Tomorrow, Crinoline Days, Silver Threads Among the Gold, etc., owed their great popularity to the fact that they were played and sung over and over again. Dance orchestras played them several times a night and it was nothing unusual for the Merry Widow Waltz and Hiawatha to be played a half dozen times during one dance and every time getting enthusiastic encores. This is what led to the great sales and it is said that the Merry Widow Waltz made a million dollars.

When they first started to broadcast opera, some people foretold the doom of the opera financially as they said people would sit at home and listen for nothing instead of paying 3, 5 or 10 dollars a seat. The recent experience of the opera broadcasted from the Lexington Avenue Opera House by station WJZ showed that immediately following the first broadcasted performance, the box office was swamped with sales. Of course what happened was that thousands of people who had never heard an opera in their

lives before, got a little taste of opera via radio and immediately decided to actually see one.

Radio broadcasting needs opera, it needs copyrighted music, literature of a high grade and all kinds of entertainment and educational matter of a high quality. But none of these things suffer by being broadcast. In fact their sales are bound to be materially increased. If anything the music publishers should pay a bonus to the broadcasting stations for carrying the various forms of entertainment. This, however, is not likely to happen.

The music publishers are perfectly within their legal rights under the copyrighted laws in either refusing permission to broadcast or in demanding a fee of some sort. However, it seems like a case of biting the hand that feeds them and in killing the goose that laid the golden egg.

If the music publishers persist in their demand, undoubtedly some concession will have to be made them if successful broadcasting is to continue. If the broadcasters call a strike by refusing to send out any copyrighted pieces of music, the publishers will no doubt see the error of their ways and give in, but in the meantime the interest in radio may possibly be seriously affected. It looks therefore as if the music publishers have a trifle the better of it.

Price Cutting Continues

Last fall we had quite an epidemic of price cutting on radio outfits and supplies. It started early in the summer and gathered momentum as it went along. With a successful winter the price cutting subsided somewhat but the evil is still with us. It will probably always be with us to some extent but as the industry finds itself, this form of competition will grow very small.

Many manufacturers of radio apparatus have in the haste to get going been a little unwise in their choice of dealers, many of whom were not in the electrical business at all. The unloading that naturally follows the giving up of such dealerships brings a lot of cut prices. Some other manufacturers are changing their sales and distribution policies, taking the sale of their products out of the hands of every Tom, Dick and Harry and placing it where it belongs, in the hands of the electragist.

Unfortunately a move like this cannot be made without hurting some people and some of them have seen fit to throw a lot of this material on the market at very low prices in order to embarrass the manufacturer. It may do that to a slight extent, but the other electragists suffer

more from the advertised cuts in prices. Such a condition fortunately cannot last very long, and when these policy adjustments are cleared up there should be a rift in the cloud of price cutting.

Modifying Wave Lengths

By the time this issue is received probably many of the new rules regarding wave lengths will have gone into effect. Broadcasting wave lengths will run up as high as 545 meters instead of the previous 400 meters and amateur wave lengths will be from 150 to 220.

Class A stations equipped to use power not exceeding 500 watts will be assigned wave lengths from 222 to 300 meters. Class B stations equipped to use from 500 to 1,000 watts will broadcast on wave lengths from 300 to 345 and from 375 to 545 meters. No new licenses will be issued in the Class C group for 360 meters until the plan is fully worked out. Shipping will use wave lengths of 600 to 800 meters.

It must be understood that this arrangement is a compromise on the part of all interested parties and the necessity of it was brought about through the failure of Congress to pass the White bill at the last session. Conditions during the past six months have been intolerable. Interference has been rife and thousands of complaints have been made by owners of receiving sets.

On some of the more simple sets the reception of radio concerts has been simply impossible, and on even the more selective sets it has been difficult and at times impossible to eliminate interference. In many cases distant stations or DX work has been out of the question until local stations have signed off for the night.

Under the new rules broadcasting at greater wave lengths is going to render some of the existing receiving sets useless as they are not designed to receive much over 450 meters, some not even so high as that. There are a number of ways of altering existing sets to receive on the new wave lengths. Crystal sets may be provided with small loading coils or with variable condensers in parallel with the antenna and ground. Where a two circuit set is used, both the primary and secondary have to be loaded equally to produce good results. Many crystal sets consisting of single or double slider coils can be used by simply inserting another coil of wire in series with the antenna.

The electrageist will have to study up a little on this subject because he will be called upon as an expert to make sets work that worked all right under the old order of things but which will not give satisfaction under the new rules.

The Low Voltage Tube

Spring sees the advent of another great change in radio equipment, the low voltage tube. It came with a rush and found the manufacturers and dealers unprepared with the result that shelves are cleaned off as fast as they can be stocked up.

The low voltage tube is certainly here, and whether it is going to entirely displace the standard voltage tube is a question. As far as selling radio receiving sets is concerned, the development of the 1½ volt tube—WD 11 and WD 12—marks a new step forward. It does away at one sweep with the necessity of a storage battery which has been a stumbling block to many amateurs and opens up

the field of the tube set to thousands who could not before afford them or who did not care to bother with them.

With the low voltage tube, dry cells provide the current formerly supplied by the storage battery and the dry cells have such a low drain that they last a satisfactory length of time without having to be renewed. The elimination of the storage battery knocks off from \$10 to \$20 of the first cost of the outfit and reduces the cost of upkeep considerably.

The low voltage tube set marks a step between the crystal set and the regular tube set, a field that has been hitherto hard to fill. With the opening of any new price class field there is always a sudden surge of business but it is very doubtful whether the new business will cut very much from either the crystal or standard tube sets. It will bring a new class of buyers entirely but it will bring with it much rebuilding of crystal sets to take the low voltage tubes.

This means more business for the electrageist. He should immediately detect these changes and seek to sell other equipment that is necessary to make the change over.

Maxim on Radio Advertising

Hiram Percy Maxim, president of the American Radio Relay League, an amateur organization, severely arraigned advertising by radio at the recent radio conference in Washington.

"Since we have our magazines, newspapers and billboards," said Maxim, "I wonder if advertising shouldn't be confined to its legitimate channels and not thrust upon an already overloaded radio."

Maxim is entirely right. People buy or build receiving sets to enable them to enjoy music and good entertainment or to study radio constructions and learn radio telegraph code. To have to listen to a speaker extol the merits of some device or some material is unfair to everybody. It would seem very much as if the devices and things lauded over the radio might be discriminated against purely on account of their interfering with the reception of other matter.

Regarding the Tube Shortage

General Manager Sarnoff of the Radio Corporation of America has been busy lately explaining the low voltage tube situation. The corporation has been severely criticized for the conditions existing in the supplies of 1½ volt tubes commonly known as WD-11 and WD-12.

It has been charged that the corporation has been holding up on production in order to make a shortage and thus keep prices up. Sarnoff denies this and explains that it is the policy of the corporation to place new developments on the market as soon as they have been perfected rather than wait until dealers and distributors have accumulated a sufficient stock to meet demands.

He claims that by so doing the public is enabled to get the new articles several months in advance of the time they would get them under the other arrangements. He claims that the factory is bending every effort to fill orders and that within a few months the shortage should be over.

In the meantime the shortage is so great that many dealers are taking advantage of the situation by offering one of the new low voltage tubes at regular list price with the purchase of \$10 or \$15 worth of other equipment.

Under the circumstances the dealers have to make some provision for their regular customers. It would not be the fair thing to dispose of the tubes to strangers and let regular customers go begging.

Dealers should make some ruling on the sale of the tubes and then stick to the ruling. We had the same kind of shortage of telephone receivers when the public first started to get the radio fever. Unfortunately in that case many inferior instruments were hastily placed on the market and sold at high prices. It is not likely that the same thing will happen with the low voltage tube sets.

Radio May Overcome Deafness

Several news items have appeared in the newspapers in the past month or so indicating that persons suffering from deafness have been able to hear radio broadcasting with

more or less ease. Some of these people have been totally deaf for a long time, one or two from birth.

At this time it is not possible to check up these reports, but there must be some truth in the statements. If it is really true, then there is an entirely new field opened up for radio, and certainly no work of man could be greater than this.

This is simply another indication that the surface has only been scratched in radio. Charles P. Steinmetz and other eminent electrical engineers predict the transmission of power by radio, and already successful experiments have been conducted on the control of boats and airplanes by means of radio. Just recently an airplane was flown and landed, entirely controlled from the ground by radio, no pilot being in the plane.

If we can relieve the deaf, thousands will be made cheerful.

Make It a Radio Summer

**Prepare Now to Combat Sales Resistance
and Induce People to Use Radio All Year**

With spring here and summer hard on its heels many radio dealers are looking forward to the warm months with something akin to dread. They heard a lot about the market going to pieces last summer and lots of people have been saying that radio is a winter sport and it's no use to monkey with it in the summer time.

There is little truth in such beliefs and those electragists who were real business men, although they found the sales of the summer months not quite up to the peak months when radio was getting fairly squared away, yet found a substantial business during the entire summer. People bought just the same and the volume of business handled by the manufacturers of radio apparatus shows more clearly than anything else that there was not nearly so much of a slump as some people tried to make out.

Although the competition of outdoor recreation does cut some figure with radio sales, there are many ways of boosting up the sales curve.

Many other lines of business have been faced with even worse conditions and they have solved the problem very satisfactorily. The automobile business was at one time considered a summer business. People laid their cars up for the winter, practically no new cars were purchased, and those that were in the hands of owners were generally out of commission. The improvement in the cars themselves and in the roads have been largely responsible for the year round use of automobiles with the exception of territories that are so completely

snowed in that they cannot be used under any circumstances.

The cars have been improved mechanically, better closed bodies have been turned out at reasonable prices, and the network of roads all over the country has been made passable even in the worst kind of weather.

Fur Business Had Similar Trouble

The fur business is another business that has been strictly a seasonable one. People bought furs in the fall and winter and neither bought them nor used them in the summer. Fur manufacturers introduced many novel business schemes to get warm weather business. They have built up a great system of cold storage for furs in the summer months to keep moths away and they make special prices on fur repairing during the summer months. This has been found to take care of the summer slump pretty well. The introduction of the summer fur has also been a great boon to the fur business.

Just as the automobile and fur businesses found means of building up trade during an ordinarily dull season, so the sales of radio material and supplies can be built up by giving it the proper kind of attention.

Much sales resistance has been introduced by a lot of loose talk.

It is said for instance that static makes it absolutely impossible to hear anything in the summer time. There are lots of good arguments to overcome this one but the most successful one is by demonstrating and by having the dem-

onstration given by a man who knows how to tune the set properly. Of course there is bound to be some trouble from static but the general reports that are received by the prospective buyer are generally grossly exaggerated. The more modern circuits are not quite so susceptible to static as were the earlier sets which were put out.

Lightning danger is another bugaboo that has been scaring a lot of people away. Of the possible two million radio receiving sets in use, damage caused by lightning striking the antenna and causing physical damage or fires were less than half a dozen throughout the country. While the danger of lightning striking an antenna is very remote, the simple rules laid down by the Fire Underwriters and by various local governing bodies will tend to still further decrease the number of accidents.

Broadcasting Good All Year

Another source of sales resistance is the report that the broadcasting programs are always very poor in the summer and that they are generally not worth listening to. While the general character of the programs remains the same through the year, there must of course be some rearrangement of schedules. Baseball and tennis games replace operas and dramas. There will be more good material on the programs of radio stations this summer than ever before in the history of the radio business.

Competition with outdoor sports will be the hardest part of the sales resist-

ance to overcome. It is only by continual advertising of the broadcasting programs that it will be possible to bring radio into active competition with golf, tennis, boating, and automobiling. Use every effort to hold the interest of radio during the summer. In large cities the newspapers will no doubt continue to print the local and distant programs each day because there is so much reader interest in them.

In the smaller town, if the editor of the newspaper is not sold on the radio idea, it would be well to show him the interest in the programs, show him how to get them and try to induce him to print them. Where only a weekly newspaper is available, try to get the programs for the week published. In addition to this, the store window can be well used for making special announcements of interesting programs, from what station they are to be broadcast and the date and time. It is not so difficult to get away with outdoor sport competition if some of these works are taken up seriously.

The outdoor use of radio itself can

well be featured at this season of the year. Such amusements as yachting, camping and automobile touring can be made much more enjoyable if the party is equipped with a good radio receiving set. It is perfectly practical to install a radio receiving set on a boat using either sails or power. With the development of tube sets and the use of the indoor antenna there is no handicap from this source. Even a moderate size boat can have an outdoor antenna if desired and for camping and motoring parties, one end of the antenna can be fastened to any convenient tree. There are folding indoor loops, however, which will give every bit as good satisfaction.

One reason advanced frequently for the postponement of the purchase of a radio set is that the sets are not perfected yet and that changes are going on all the time in the design and construction of the apparatus. While this has some element of truth in it, nevertheless the man who waits until radio is perfected will never buy one because it never will be perfected. Not only is

this true of radio, but it is true with automobiles, motorboats, golf sticks, vacuum cleaners, or any other piece of machinery or apparatus. We have perfectly good receiving sets now and the sets that were made two or three years ago are still giving good satisfaction. Improvements are bound to be made from time to time in any electrical or mechanical device.

Lowered prices will not be much of a figure this summer if indications are to be believed. The prices of many of the raw materials used have gone up within the past few weeks and more increases are expected. Labor is scarce and is demanding and getting higher wages. There certainly can be no general lowering of prices for quite some time to come unless something very unusual occurs, and there does not seem to be any possibility of such an event happening.

The problem of interference will be met this summer with the broadening of wave lengths and with any kind of a well designed set at all, it should be possible to tune out interfering stations without much trouble.

Broadcasting at Two Distant Points

How Stations in Texas and Nebraska Operate to Serve the Best Interests of the Radio Public

Station WOAI in Texas

Station WOAI at San Antonio, Texas, is boosting the Winter Playground of America and is operated by the Express Publishing company publishing the *San Antonio Express*, the *Evening News* and the *Semiweekly Farm Express*. It is the only class B station in the city and one of the few in the southwest. It has been in operation since last September and is on the air four times each day and three nights a week.

At 10:30 a. m., 12:15, 3 and 6 p. m. central standard time every day with the exception of Sunday, news, market reports, export news, weather forecasts, and road reports are broadcast from WOAI on a wave length of 485 meters. Musical concerts are presented three nights each week: Sundays from 9:30 to 10:30 p. m., Tuesdays from 9:30 to 10:30 p. m., and Thursdays from 7:30 to 8:30 p. m., on a wave length of 400 meters.

News reports and musical programs are arranged by the radio editor of the first two publications named, and with its wealth of artists this station has many admirers of diversified interests.

Sunday nights are feature concert

nights when only the highest class selections are presented. Tuesday nights are popular nights, with orchestras and singers presenting the musical hits of the day. Thursday nights have been designated "community nights," with

the talent furnished by artists from surrounding cities and towns. These programs are generally under the auspices of the chamber of commerce in the particular city thus honored. This idea has proven exceptionally popular with radio



One End of the Studio at WOAI. Note That Nothing is Hung on the Artistic Drapery to Distract the Attention of the Artists

fans throughout the land, and is a means of boosting Texas and Texas towns. Chambers of commerce in cities as far as 500 miles away pay the expenses of artists to San Antonio to present a program on "community night."

The antenna is a six wire L type, supported by two steel towers 80 feet high. There is a fanshaped counterpoise below the antennas. Current is supplied by a three unit motor generator, located 80 feet from the panel board, thus eliminating all generator hum and unnecessary mechanical noises. On the panel board are four 250 watt tubes, with a 50 watt speech amplifier.

The broadcasting studio is artistically draped and is considered one of the most beautiful broadcasting studios in the southwest. There is nothing in the studio nor on the walls to distract the attention of the artists. Only the artist, or artists, who are before the microphone are permitted in the studio during broadcasting periods.

Artists who are awaiting their call remain in the reception room. They enter the studio through a door located opposite the door where the artists who have just finished their selection are leaving. This arrangement eliminates any possibility of talking in the studio, confusion in entering and leaving by one door, and delay.

A competent and trustworthy signal system connects the studio and the operating room. The generator is controlled by a switch arrangement at the panel board, and the station's technician, while the broadcasting apparatus is in operation, remains in front of the panel board, and is the only person permitted in the operating room at the time.

Early in February, when the San Carlo Grand Opera Company played a limited engagement in San Antonio, WOAI broadcast the operas "Rigoletto" and "Martha." The opera "Martha" was broadcast in the afternoon, and reports show it was heard as far north as Minneapolis, a distance of 1,100 miles. The opera "Rigoletto," given the preceding evening, reached as far as British Columbia, nearly 2,000 miles away.

On the night of January 7, WOAI was heard in 35 states, four provinces of Canada and one point in Mexico, according to reports from fans.

The policy of WOAI is to provide clean entertainment, concerts that are the best; talent of the highest class, and educational features.

Station WJAG in Nebraska

This station is operated by The Huse Publishing Company, owners of *The Norfolk Daily News*, Norfolk, Neb. It is conducted with features sent out by that newspaper and is located in the newspaper building.

The antenna input power is 50 watts. Three 50 watt tubes are used, one as a speech amplifier, one as a modulator and one as an oscillator. The circuit is a modified Hartley arrangement which is sometimes called the Stanley circuit. The circuit is almost identical with the one used by Louis Falconi of 5ZA fame, the winner of the 1922 Hoover cup for the best amateur station in the United States. Heising modulation is used. A counterpoise and ground are used.

WJAG has been operating about eight months. The station is in the air four times each day with weather reports,

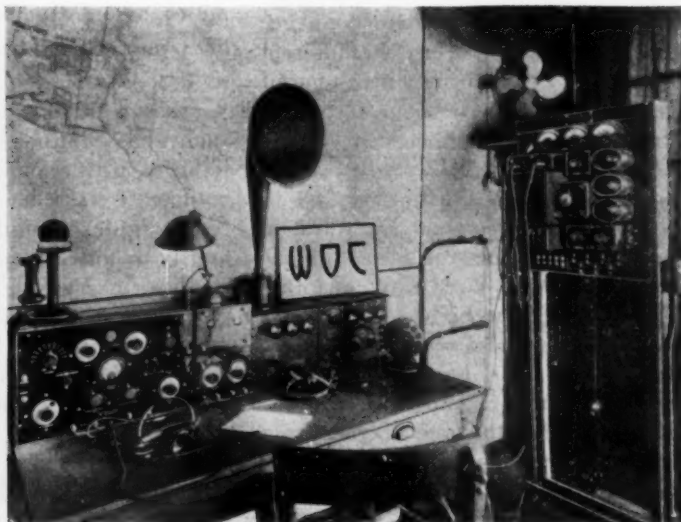
markets, grain and livestock and feature news, occasionally a special musical concert. The form of news matter is human interest features, a flash on any great robberies, great disasters, police calls for aid, and storm warnings.

Probably the feature which has met with the greatest approval from this station is the advance warnings of approaching storms. Nebraska had one of the greatest blizzards in its history during the latter part of the winter. Warnings were sent out of the approach of the storm as received by telephone. Scores of farmers in north Nebraska towns doing their trading were notified. Letters received indicate that many of the farmers beat the storm home and got their livestock under cover in time to save it. Several automobiles have been recovered as a result of police reports sent out.

On Good Friday markets and business talks were dispensed with without any advance notice to listeners. To commemorate the crucifixion sacred music was put on promptly at noon and followed with a sermon by a local minister. Another feature from this station is the broadcasting of any special events sent out by other stations.

The operators find that most noted persons who get across with the fans are people they know. Occasionally they have prominent citizens from some neighboring towns say something from the studio. Musical artists are picked from local territory. They are glad to play from this station because they feel at home and feel they are putting their own community on the map via radio.

Probably the best feature is the Continental code and American Morse code school, sent out each evening at 5



Two Views of Station WOC's Equipment at Davenport, Ia., Which Show a Corner of the Studio and a 500 Watt Western Electric Transmitter as Part of the Transmitting Apparatus. Broadcasting Studios seem to have come to be coldly standardized, but this one looks very comfortable and homey. Details of this station were published last month, but the illustrations did not arrive in time to be included. So here they are

o'clock. This was started about five or six months ago by telegraphers on *The News* staff. It has a great following. The idea of this school is not so much in the nature of teaching listeners in to become expert operators as it is to familiarize them with the code when they hear it on their own receiving sets.

The expense of conditioning this station, the employment of a licensed operator, announcers, etc. has not been so great as the advertising given to north Nebraska through its operation.

Denver May Have Station

The possibilities of the establishment of a high power radio broadcasting station in Denver was discussed recently when two executives of the General Electric Company, W. D'Arcy Ryan, head of the illumination research laboratories, and M. P. Rice, director of publication service, were in Denver.

Broadcast Organ Recitals

Through the courtesy of the Estey Organ Company, the Radio Corporation—Westinghouse station, WJZ, Newark, N. J., is broadcasting organ recitals at least twice a week during the present months.

The organ, because of its extreme purity of tone and great versatility, has always been the most popular of musical instruments, and the radio audience has voiced its approval of the recitals now being broadcasted by several of the larger stations. Unfortunately, however, the average organ is not well adapted for radio purposes. For both structural and artistic reasons, it is installed in several different sections; and though the player can produce beautiful effects for his immediate audience by the appropriate use of these different sections, the variation in the volume of sound is too extreme to be entirely satisfactory to the radio audience:

The engineers of WJZ studied all of the available organs with this fact in view and found the great Estey organ, installed in the general offices of the company in New York City, one that was not only of the highest musical excellence but that also seemed especially designed for radio purposes. In this organ the sound chambers are so arranged that all of the tone emerges from a single point, regardless of which banks of pipes are being played. This greatly simplifies the transmitting problem and permits every sound intensity to be caught at its true relative value by

the microphone. The auditorium in which the transmitter is placed has been made echoproof, and all extraneous sounds and reverberations that interfere with perfect artistic results from a radio standpoint have been eliminated.

Sunday afternoon popular concerts by the City Symphony Orchestra also are being broadcasted by WJZ. These concerts are held at the Manhattan Opera House, New York City, and are conveyed to WJZ by a special wire. The programs consist of gems from the lighter classics together with shorter symphonic poems. Young soloists of real talent and distinction are heard at each performance.

The City Symphony Orchestra, which is maintained by the Musical Society of the City of New York, consists of 83 players carefully selected for their musical talent and symphonic experience. The conductor, Dirk Foch, a native of Holland and a composer of distinction, has had a successful career as a conductor of symphony concerts and opera in Amsterdam, The Hague, Stockholm, Gothenburg, and other European cities. He conducted several stadium concerts in 1919, a special Carnegie Hall concert in 1920, and was a guest conductor of the St. Louis Symphony Orchestra for two concerts in 1921.

Engineers View Radio

Electrical Authorities Consider Art and Make Report

That the development of radio has been marvellous, even to electrical engineers is evidenced by the report of the Telegraphy and Telephone Technical Committee of the American Institute of Electrical Engineers. This committee, one of a number reporting to the body on various phases of electrical activities, says of radio:

Transoceanic commercial radio telegraphy has continued to improve in reliability, with the natural result that the volume of traffic has steadily increased. Radio duplex channels now are continuously operated between New York and stations in England, France, Norway, Germany, with stations soon to be opened in Sweden, Holland, Italy and Poland. The station of the Radio Corporation of America at San Francisco works continuously with stations in Hawaii and Japan.

A noticeable tendency is to employ vacuum tube oscillators for transmission, both for telegraphy and telephony.

On the Pacific Coast continuous radio

telegraph service is performed by a commercial company between the cities San Francisco, Los Angeles, San Diego, Tacoma, Portland and Seattle. A large volume of business is handled in competition with the wire companies.

One of the most spectacular developments during the year has been the application of radio telephony. This art has advanced rapidly, along technical and scientific lines for several years, and today many startling demonstrations of special circuits, instruments of high sensitivity, special amplification, and accurate modulation are in use. This valuable scientific work has of course been continued, but the committee wishes to report, this year on the engineering development of the art.

Although several scientific developments and inventions could be recorded the great work has been the extensive application of radio telephony, increase in efficiency, power and quality of transmission, and the increase in efficiency and simplification of receiving equipments to meet the great demand of the general public for telephone reception in the home.

The regular public broadcasting of news, church services and entertainment from the Pittsburgh district created nationwide interest in radio broadcasting, and within the year the manufacturers and distributors of radio apparatus have started additional regional broadcasting service from large radiophone stations, giving news, music, speeches, church services, grand opera, athletic events, market reports, etc.

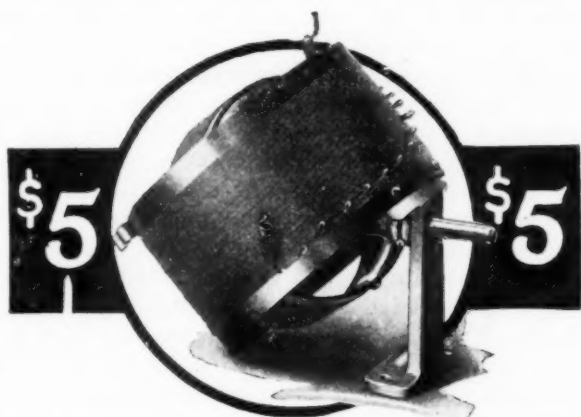
The fascination and value of radio telephone broadcasting service in the city, home and on the isolated farm has created such a demand for telephone receiving equipment that an active industry has grown up within a year.

Radio Trust Possible

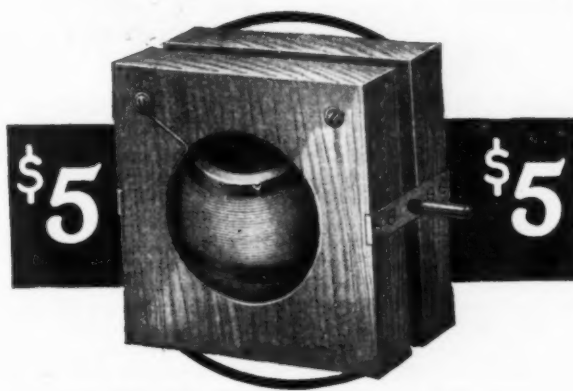
An investigation to ascertain whether or not there is a radio trust soon will be launched by the Federal Trade Commission in compliance with the requirements of a resolution. It is understood that a conference of the officials and probably a preliminary investigation will be held before formal action of any sort is taken or witnesses are called.

A complete survey of the radio patent field will be undertaken and contracts and agreements will be examined to learn if exclusive rights or special privileges for transmission or reception have been made. No announcement has as yet been made by the commission.

QUEENS Vario Coupler



QUEENS Vario Meter



WE SELL THESE GOODS TO YOUR CUSTOMER

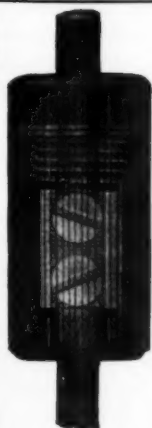
But we need a place where he can secure them quickly.
Let us tell you how we do it.

Write for our proposition

QUEENS RADIO COMPANY, Inc.

12 FOREST STREET

WINFIELD, L. I.



Take Three Minutes and Figure this Out

How much more profit could you make on your next wiring job—(or how much lower could you bid, if you wanted to) if you could cut out 80% of your men's time in making connections?

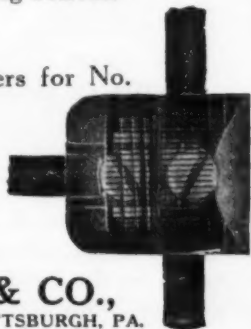
You can do this with—

WALGER CONNECTORS

No solder—no blow torch—just a supply of Walger Connectors in their pockets to connect fixtures or tap feed wires; a big convenience in cramped places.

Approved by Underwriters for No. 12 wire and smaller.

*Ask your jobber
for Walgers.*



S. H. STOVER & CO.,

Chamber of Commerce Bldg., PITTSBURGH, PA.

JIFFY CLIPS



When it comes to the question of saving time, money and labor, we recommend the **JIFFY CLIP**.

To securely hold in place, Cable, Conduit or Pipe, it is only necessary to use one screw or bolt with each clip. Where space is limited, the Jiffy Clip is invaluable.

Your Jobber Has Them

MINERALLAC ELECTRIC COMPANY

1045 Washington Blvd., Chicago.

Tune in to results
with this new and
better device—the

Marco Tuner

TYPE 330-A



Body Capacity Practically Eliminated

As a Single or Double Circuit Tuner, this instrument is most useful, particularly for tuning simple, efficient regenerative sets.

As a Radio Frequency Transformer, it is the most generally satisfactory piece of apparatus on the market today, providing in itself an aerial tuning inductance and an intertube coupling impedance which is variable, compensating for changes in wave length or differences in inter-electrode tube capacities, allowing successful operation with any of the new low amperage tubes.

In the Flewelling Circuit, all the interesting phenomena of super-regeneration may be observed through the use of this device.

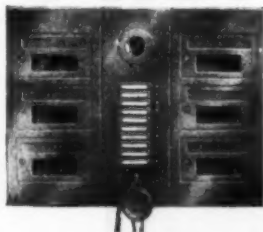
In Any Combination Requiring Small Inductances, this arrangement of coils will provide the necessary value for broadcasting reception, and will work well, with a pleasing lack of body capacity effect in adjustment.

Martin-Copeland Company

Providence, R. I.

CONNECTICUT

APARTMENT HOUSE TELEPHONES



Standard or Cordless Types. With or without letter box units.

Individual telephones for apartments, tradesmen, etc.

Ask for Catalogue 29-B

Telephone Specialists for over 28 years.

CONNECTICUT TELEPHONE & ELECTRIC COMPANY

JOS. M. ZAMOISKI COMPANY

The Electrifiers

Radio Building,

Baltimore, Md.

—DISTRIBUTORS—

Radio Corp. of America
Colin B. Kennedy Co.
Wm. J. Murdock Co.
Acme Apparatus Co.
Atwater Kent Mfg. Co.
Nathaniel Baldwin, Inc.
C. Brandes, Inc.

Clapp-Eastham Co.
DeForest Radio T. & T. Co.
Chelsea Radio Co.
Burgess Battery Co.
Remler Radio Mfg. Co.
Adams-Morgan Co. "Paragon"
Dayton Fan & Motor Co.

PROMPT DELIVERIES

Station WJZ Has New Transmitter

The Radio Corporation—Westinghouse radio station at Newark, N. J., WJZ, doubled the power of its transmitter toward the latter part of December, the new transmitter being rated at 1,000 watts. Detailed changes were also made in the transmitting, modulating and generating system. It is estimated that these improvements have made the station three times as effective as it was before.

The new transmitter includes a number of new features. Instead of using generators to develop the high voltage plate current, a power rectified was installed. An oscillograph picture shows no ripple in the current wave. The new transmitter consists of four oscillators modulated by five modulator tubes of special design. A feature of this transmitter is that it has a meter which shows the percentage of modulation at every instant. This enables the operator to keep a check on the performance of the transmitters. A new amplifier which steps up the energy received from the studio has also been installed.

G. E. To Make Many Tubes

The General Electric Company will produce 200,000 vacuum tubes a month in the near future, is the belief of E. P. Edwards, manager of the radio department of the company. Two hundred thousand is more than six times the production six months ago. He says:

"A year ago we believed the meat and backbone of radio to be communication, particular transoceanic communication which would involve the use of millions of dollars' worth of apparatus. The needs of the amateur were considered a side line.

"Then broadcasting came along and everything changed. The radio amateur became the big part of the business and the amateur suddenly began demanding assembled sets, instead of just parts as before. The demand for assembled sets is now 90 percent of the business. Production has soared, but so has the demand, so that it has been impossible for the manufacturer to keep abreast."

Variohm High Resistance

The Variohm is a variable high resistance ranging from .1 to 5 megohms and is made by the Electriad Corporation of America, 37 Howard Street, New York City. Any resistance between these wide limits is available by simply turning the knob. No sliding contacts play over the resistance elements itself. The contact is produced by a second member which the slider causes to press down or lift up.

The change in resistance is brought about gradually and smoothly. Mathematically there is an infinite member of resistances available. Encased with the Variohm there is a standard mica condenser. The Variohm is moisture proof and is supplied with a bakelite case, size 2 13/16 by 7 1/16 inches.

Betts & Betts Appoint Distributor

Cloyd Marshall, formerly assistant treasurer of the Dubilier Corporation, New York City, now of Marshall & Company, Los Angeles, will handle radio goods manufactured by the Betts & Betts Corporation, New York City, in the west. A substantial stock will be carried for distribution on the Pacific coast and shipments will be made to western points f. o. b. Los Angeles.

Increase Your Bank Balance by keeping your accounts right—Why

There is just one reason WHY. Every penny that comes in and goes out is accurately recorded. Besides, the many other transactions that must necessarily take place in your business are correctly and easily handled through the right system of keeping accounts. And for every live Electragist employing a bookkeeper that right system is the

Standard Accounting System

In the business of the Electragist so many tools and devices are employed that one of the most necessary and important items of work, because it cannot be done by machinery, is often neglected—the keeping of correct accounts. This cannot be done automatically—not even electrically. But by neglecting it contractors and dealers do business at a great disadvantage.

You are losing out in a very important part of your business if you have a bookkeeper and do not employ the Standard Accounting System. Just think what important details of **real accounting** your work involves! Note them in the diagram below.

How else can you keep the bookkeeping record you should than by the methods devised exclusively for contractor-dealer accounts?

Order Your Accounting Set Today

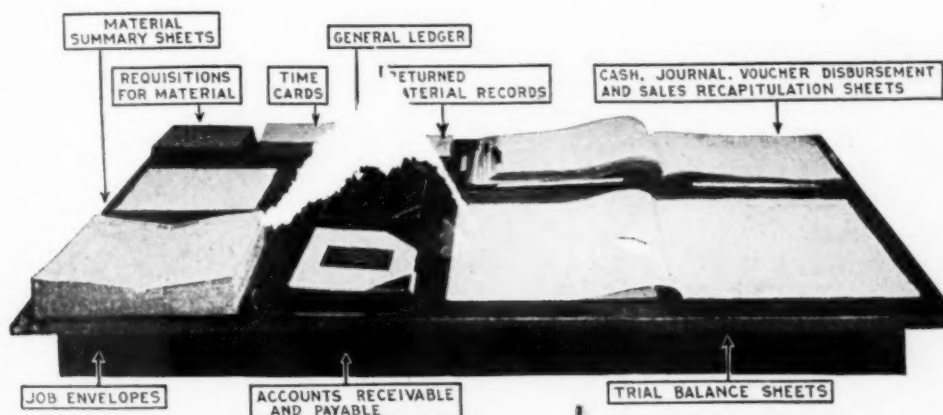
THE STANDARD ACCOUNTING SYSTEM is approved by all branches of the electrical industry including the National Electrical Credit Association and is copyrighted and issued by the

ASSOCIATION OF ELECTRAGISTS INTERNATIONAL

Formerly National Association of Electrical Contractors and Dealers.

15 West 37th Street

New York City



For the business that does not employ a bookkeeper the New Business Record is especially recommended—also issued by the A. E. I.

Here is the complete set just as it looks spread out on an ordinary office table

The perfecting touch of a perfect meal is Light

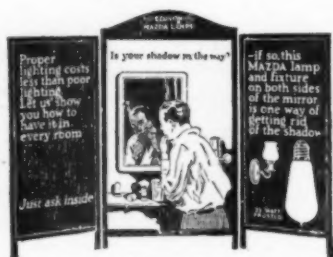
YOU MAY LEAD YOUR GUESTS into a perfectly furnished dining room and serve a delicious meal. But unless the Light is right, the whole effect is spoiled. And your guests go home complaining of drowsiness and indigestion from the glare, or of a glare that hurt their eyes. There is no need of having poor light in your dining room when the cost of Good Light is so small. You begin merely by putting the right lamp in each socket of the fixtures you now have.

EDISON MAZDA LAMPS

A GENERAL ELECTRIC PRODUCT

Magazine advertising like this paves the way for Edison MAZDA Lamp Agents to bring in buyers of lamps who are ideal prospects for the sale of other electrical goods

Edison MAZDA Lamp advertising increases consumer contacts



The Lighting Dozen. Twelve separate 3-panel displays, each with a different sales-creating message, not only for Edison MAZDA Lamps but for all electrical merchandise.



Ready-made advertisements. Real selling messages—six different series of them to use in your local newspaper. Plenty of room for your name and address.

IT'S A recognized fact that people must be *reminded* to buy lamps.

Edison MAZDA Lamp Advertising for 1923 hammers away day in and day out to accomplish this "reminding" process. Edison MAZDA Lamp sales aids when properly used, will crystallize the intention to buy and to *buy at your store* if you are an Edison MAZDA Lamp Agent. That means more contacts with consumers—more chances to talk to more people about the *other* electrical goods you have.

On this page are shown but four of the chain of introduction—winning sales aids which are included in the 1923 Edison MAZDA Lamp co-operative business building advertising plan. The nearest District Office will explain the details.

EDISON LAMP WORKS
OF GENERAL ELECTRIC COMPANY
HARRISON, N. J.



The Lighting Primer. 36 pages, printed in three colors, which tell consumers simply and pictorially why good lighting is necessary and how to get it.



Booklets for mailing. Dozens of business-bringing folders, blotters and booklets just waiting for you to order them. Ask for samples and details.

EDISON MAZDA LAMPS

A GENERAL ELECTRIC PRODUCT